ASL

Australian Society for Limnology Inc.

NEWSLETTER

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AUSTRALIAN SOCIETY FOR LIMNOLOGY INC.

The Australian Society for Limnology (ASL) is an Australian-based scientific society whose focus is the study and management of inland waters. The ASL was established in 1961, and has a current membership of over 650 researchers, managers, engineers, teachers and tertiary level students from all states and territories. Members have a strong professional interest in inland aquatic issues, including the maintenance of biodiversity, the maintenance and/or restoration of water quality, and the wise use of aquatic resources. The Society also has a strong interest in fostering the scientific and intellectual development of tertiary students.

The Society includes members working in government agencies, tertiary institutions and many industries related to aquatic resources. Through their daily activities, members have contact with local communities and are in a sound position to interpret and advise on inland water issues. The Society has a substantial knowledge base, and has assumed a responsibility to ensure that this is available to those who manage inland waters.

Accordingly, the charter of the ASL is to further our understanding of Australia's inland waters and to promote their wise use and sustainable management. In this manner we will contribute to the continued existence of this valued resource and the maintenance and enhancement of the quality of life for all Australians.

The ASL regularly produces a newsletter with notes on limnological activities, articles of interest, book reviews and announcements of upcoming events likely to be of interest to Members.

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ASL Home Page - http://www.asl.org.au/

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Membership Information and a list of the Regional Executive Members can be found at the back of this Newsletter.

EDITORIAL

So, what does one write about in one's first editorial??

I figure a lot of readers won't know me (although I have been around for a fair while). So, if you do know me, then turn to page 6 and read on, or else let me give you a quick run down on your new editor.

I was born and raised in rural Western Australia, in a small country town called Toodyay (pronounced 2J), did my science degree at Murdoch University and then worked for four years with an American consulting firm, who in the mid-1980's, were known as Dames & Moore.

Hormones led me to the east coast, where with my partner and two children, I have a small hobby farm about 25km east of Albury, on the edge of Lake Hume. I've been working on and off at MDFRC for the past 13 years as a Scientific Liaison Officer (interesting acronym!!), and am presently working part-time.

Hobby farming has led to some strange noises coming from my office (Room S4 is you're ever at MDFRC) - on odd occasions I've had sick pups, day-old chickens, and orphaned lambs residing under my desk – always a good talking point at to what Rhonda's got in her office!

Since volunterring to take on the role of Editor, I've become aware of the immense amount of work that our Executive does behind the scene, I'd like to thank them for their encouragement and support, and look forward to meeting a lot of them at Moama.

I've also become aware of the fact how great it is that people read the articles so closely and get involved with the newsletter (read the article in "Bits and Pieces"), and the requests that people submit to the Editor – recently someone requested copies of two publications from former ASL Congresses, held in1984 and 1989!! – who said no-one read back issues!

I encourage your participation in your newsletter.

Rhonda Sinclair

PRESIDENT'S REPORT

Hi all and welcome to Rhonda Sinclair, our new newsletter editor!

Rhonda has obviously got the job sussed already with this excellent edition and I shall curry favour by keeping this Pres. report short and sweet as most of the current business will be addressed at the AGM of ASL later this month. We have an ASL Medal, honorary life memberships and a new international travel award donated from the proceedings of the SIL congress in Melbourne in February this year.

Last newsletter I mentioned FASTS had contacted ASL inviting us to provide nominations for the Alligator Rivers Region Technical Committee (ARRTC). I'm pleased to announce that two ASL members recommended by FASTS have been selected for the committee: Barry Hart and Terry Hillman. Congratulations Barry and Terry.

The Executive is currently organising new promotional material in the form of updated brochures and a poster. We are in the hunt for suitable photographic examples of the wonder of Australian limnology. We have asked members to consider donating your prized photo or slide towards this quest (we will of course return it, and acknowledge you as the photographer!) Time is running out on this one - 15th September is the deadline. If you haven't seen the information on the list server or web, contact Abbie Spiers Phone (08) 8982 9110, or Fax (08) 8982 9103.

See you at the ASL congress in Moama! And don't forget the Australian Wetland Forum (advertised in this newsletter), registrations are being accepted now.

Cheers,
Jane

September 1st 2001.

SCUTTLEBUTT, RUMOUR AND A BIT OF PRATTLE

AUSTRALIAN WATER QUALITY CENTRE BOLIVAR, SOUTH AUSTRALIA

Projects keep appearing with a pleasing frequency. Planning WWTP impacts has taken a lot of time. The new AusRivAS model for South Australia has been completed. Sampling continues on old projects and on a few new ones. **Peter Schultz** sampled the Inman River for microbiological analysis for a project to identify the sources of Coliforms in the stream. The midge population of our local Bolivar WWTP effluent lagoons have benefited from a plant upgrade. **Chris Madden** and **Darren Hicks** sampled the lagoons to estimate the newly invigorated population. With SKM we formed an environmental flow Technical Panel seeking habitat preferences of macroinvertebrates. A parcel of NSW samples were received for the CRCFE. **Paul McEvoy** trained a number of Waterwatch coordinators for Snapshot 2001. **Peter** sampled some streams in Bali and returned with bugs preserved in gin.

The big news is the birth of **Ruby McEvoy,** to **Paul** and **Tania** on the 13th August. All are coping well with the changed routine.

From

Peter Schultz

AUSTRALIAN MUSEUM, FRESHWATER SYSTEMATICS RESEARCH

Various freshwater projects at the Australian Museum have been busy with new discoveries during 2001. In May, **Winston Ponder** and colleagues sampled a mound spring supergroup in south central Queensland and discovered a plethora of new snails, amphipods, and (most importantly for this correspondent) Queensland's first record of phreatoicidean isopod crustaceans. The two isopod species appear to be related to South Australia's *Phreatomerus latipes*, but one is distinctive and possibly a new genus.

During March, **Steve Keable** and **George ("Buz") Wilson** rushed around Tasmania to sample as many of the phreatoicidean isopod type localities as possible in only 2 weeks. Collecting at many sites was successful, but the extremely dry conditions in the southwestern region turned the spongy swamps, where *Hypsimetopus* was once found, into dry husks of their former glory. Moving to the centre, Tasmania's Great Lake has the highest diversity of phreatoicideans found anywhere in the world - approximately 10 species. With the kind assistance of **Tim Kingston** and Tasmanian Inland Fisheries, who provided facilities and a boat, a small series of grab and sled-dredge samples were collected from the Great Lake. Ongoing sorting at the Museum has just this week (end August) uncovered fresh specimens of Onchotelson *spatulatus*, for which the original material has disappeared. The trip finished near Thorpdale, Victoria where we picked up fresh specimens of the hypsimetopodid *Phreatoicoides gracilis*, at a site discovered by **Di Crowther**.

In July, the isopodophiles migrated to Melbourne for the International Crustacean Congress, and reported on the morphology of these isopods, using data gleaned from approximately 6 gigabytes of images assembled over the last year by the Museum's SEM gurus, **Anna Cerra** and **Sue Lindsay**. At the same Congress, **Regina Wetzer** (Los Angeles County Museum of Natural History), a colleague who sampled with us during 1999, showed molecular results corroborating our surprising finding that the giant semiterrestrial genus *Phreatoicopsis* is closely related to the genus *Synamphisopus*, a common resident of streams in the Grampians. Although the isopod work in the Grampians was aimed at obtaining fresh material of described species, the isopod collectors **Regina**, **Steve** and **Buz** managed to find during a short 3-day stay, six new species and two new genera of phreatoicideans. The finishing touches are now being put on the description of these new isopods. At the congress, we also enjoyed hearing about species flocks of phreatoicideans during an award-winning student presentation by **Gavin Gouws** (Stellenbosch University, South Africa). After the congress, **Gavin** spent 3 weeks at the Museum learning how to use the DELTA database, during which he described a new species of *Mesamphisopus*. We also nearly froze him to death owing to a late July visit to Barrington Tops National Park. While collecting the resident species of *Crenoicus* at Poleblue Swamp, we had to push snow and ice out of the way.

During August, **Buz Wilson** travelled to Perth to participate in a Pilbara stygofauna workshop (sponsored by Hammersly Iron and CALM). The considerable aquatic biodiversity in the Pilbara aquifer was at issue, and whether mining activities that require de-watering the aquifer are compatible with maintaining this diversity. The workshop was chaired by Stuart Anstee (HI), with other presenters being **Andrew Boulton** (University of New England), **Stuart Halse** (CALM), **Doug Brown** (hydrogeology expert from Liquid Earth Pty. Ltd.), **Bill Humphreys** (WA Museum), **John Bradbury** (University of South Australia), and **Terrie Finston** (University WA). Other participants included local experts from CALM, HI, and local universities. Overall, the workshop was useful for bringing together all interested parties, and a suitable resolution may be at hand. A national network of stygofaunal collaborators may develop out of this interest, an idea supported by **Gary Morgan** (WA Museum) and **Mia Thurgate** (Jenolan Caves Reserve Trust).

From

Buz Wilson

CENTRE FOR CATCHMENT AND IN-STREAM RESEARCH, GRIFFITH UNIVERSITY, BRISBANE

Most of us at **CCISR** have been busy this week attending the Australian Stream Management Conference and/or the River*symposium*. The River*symposium*, held annually in Brisbane, is in its 4th year and proving to be a stimulating forum where scientists and others (my bias) can exchange and obtain knowledge on current river management issues in a very positive atmosphere. Many presentations are in a case study format that illustrates the application of science and the challenges and response when river conservation and improvement measures are taken to the community. The Kissimmee River (USA), Paraguay River and Pantanal Wetlands (Argentina), Hudson River (USA), Code River (Indonesia), Pasig River (Philippines) and Port Phillip Bay (Australia) were all showcased in this way. There were sessions devoted to research from several multidisciplinary Australian studies and several keynote presentations with a global perspective. These covered the issues of restoring health to freshwater ecosystems (Sandra Postel), the Global Water Partnership (Margaret Catley-Carson), riverine biodiverstiy in Asia (David Dudgeon) and more.

This conference delivered what it promised "...highlighting worlds best practice in river management", and we were entertained – the *Hypothetical* hosted by Robyn Williams, and including Gary Jones as a panelist, was a thought provoking and laughter filled session. Awarded at the symposium was the international river*prize* award for outstanding achievement in river management. This year the prize was won by the Blackwood Basin Group Inc from WA – the first time an Australian group has won this lucrative cash prize ($100K) which is gaining considerable international prestige.

The **DIBM3** (Design and Implementation of Baseline Monitoring) team have finished their study and submitted their final report in July. The report recommends an ecosystem health monitoring program for rivers and streams in S.E. Queensland. The report was favourably received by reviewers and it is hoped that the monitoring program will be in place in 2002.

The dryland river refugium team is about to embark upon further field work in Western Queensland. The Cooper Creek sites sampled in May will be revisited in September, while sampling is set to commence in the Warrego catchment in October. As with the first field trip, data will be collected on turtle ecology, fish diversity and abundance, benthic and nektonic invertebrate diversity and abundance, geomorphology, benthic production and food web analysis.

From

Stephen (Harry) Balcombe

SCHOOL OF ECOLOGY & ENVIRONMENT, DEAKIN UNIVERSITY, WARRNAMBOOL

Colin Clay has begun an Honours project on the biodiversity of pasture wetlands in south-west Victoria with **Belinda Robson**. **Adam Pope** and **John Sherwood** have been part of a team organising an Australian Students' Wetland Conference based at Camperdown College. Nearly 200 students are coming - with representatives from most Australian States. It is for year 9 - 11 students and has two days of practical activities on Lakes Colongulac, Bullen-Merri and Purrembete. The Conference will run from Sun 2 September to the evening of Tuesday 4 September. Deakin is one of several sponsors (including both local CMA's, Environment Australia, DEET, Southwest Water, Landcare, Corangamite Shire, NRE, Waterwatch and Parks Vic). Altogether over $70,000 has been raised in sponsorship - mostly due to the untiring efforts of **Graeme Arkinstall**, a teacher at Camperdown College.

A major study of nutrient runoff from dairy farms in Western Victoria has commenced this year. A PhD student (**David Lambert**) is currently building weir systems on two farm paddocks near Warrnambool. His work is being supervised by **Nick Turoczy** and **John Sherwood** of Deakin and **Robert Edis** of the Institute for Land and Food Resources, Melbourne University. Information on loads and nutrient speciation will be coupled with hydrological models of each sub-catchment to be developed by the other partners in the project - **Rodger Grayson** and **Andrew Western** of Melbourne University's Dept of Civil and Environmental Engineering. The study is being funded by DRDC (through WestVic Dairy), the Glenelg-Hopkins CMA and the Corangamite CMA. This work will increase our knowledge of nutrient movenment in surface run-off and groundwater flows. The field methodology is heavily based on similar studies by **David Nash** and his research group at the NRE Ellinbank Research Station. We hope to finish the construction of the field sites in time to collect the first run-off this winter (or spring!!).

From

Belinda Robson

WSL Consultants – Aquatic Ecology

The algae lab has recently purchased a camera for taking photos through the microscopes. The new equipment has been much anticipated and will be used for training and to expedite taxonomic confirmations. Some phytoplankton and zooplankton specimens have been recorded already and macroinvertebrate images are being prepared. Thanks to **Dean Comrie**, Manager of Microbiology, for preparing the new equipment. By the time this goes to print our macroinvertebrate samples from NSW DLWC will be completed, with a project voucher collection of over 500 specimens, the wetlands project has been a rewarding challenge.

Meanwhile we continue the testing of EPA compliance around Victoria. **Alistair Cameron** has also been preparing a study of the effect of irrigation drains on receiving waters. **Kylie Swingler** completed an Understanding ISO 9001:2000 and Internal auditor training course. The Directors of WSL are very proud of the company's quality standards and Kylie has been chosen to ensure the maintenance of these standards. Congratulation Kylie - Go get 'em girl. **Patrick Maiden** is stepping out of the lab one day a week to teach primary school children throughout Melbourne about commonly found spiders. With a collection of live spiders and a few Oh-my-God! specimens, the kids really love getting to know bugs. Patrick is also pretty happy to be doing some spider ID work for the DLWC wetland work. If anyone is doing any spider work around waterways he'd love to know, especially with Tetragnathidae. Apart from working in the biology lab, **Dan Vertessy** has recently been appointed Associate Professor at the Olinda Puppy school, specialising in Mojo, the border collie. Father and puppy both well.

The study of artificial riffles in Moonee Ponds creek appears likely to continue in a larger, more extensive program including more sites and surrounding waterways. With the aims of assessing waterway health (macroinvertebrates, toxicants), and identifying major waterway health issues and information gaps, **Alistair Cameron** intends to recommend how the health of these waterways can be improved. The continuing Little Yarra River re-snagging project has also been expanded. Proposed re-snagging works to be conducted have not been completed, so a spring sampling can be added to the initial autumn samples before the works commence.

We have a number of new faces in the lab. **Julie Hanley** joined us from the fabulous La Trobe Uni Albury-Wodonga campus, leaving behind her exciting and exotic pig farm work. **Stephen Adamthwaite** has come from La Trobe Uni Bundoora campus after studying macroinvertebrate distribution in the Avoca River with **Tim New**. We have also welcomed **Natalie Peric** who has returned to Melbourne after working in and around Shepparton for Goulburn Valley Water. Field trips to the Goulburn River will never be the same since **Natalie** showed us the Shepparton Karaoke saloon bar. **Genevieve Ilchir** is spending half her week with us after working as the Assistant Curator to **Richard Marchant** at the Museum of Victoria.

Making space for these new staff, **Katrina Cousins** has gone to CRC at Monash and we are sorry to see her go. **Sam** and **Alena** have already mentioned that they're pretty chuffed with their latest team member. It's great to see her get stuck into such a big project and we are excited at maintaining our links with the CRC. Meanwhile, **David Bryant** has taken leave for a WA odyssey on two wheels. After a 3 week reconnoitre of the Kimberley for his Father's eco-tourism company, **David** has embarked on a solo bicycle trip from Broome to Alice Springs, carrying 40L of water, 8 spare tubes and 1 lycra body suit, he will be a bruised and blistered bush man on his return in November. Stay tuned.

From

Patrick Maiden

ECOSYSTEM MANAGEMENT, UNIVERSITY OF NEW ENGLAND

Although winter has slowed metabolism on the Tablelands (researchers and subject alike), work continues on the coastal systems. **Marcus Finn** has entered the second phase of his PhD project on low flows in unregulated rivers (Hastings catchment) co-supervised by **Bruce Chessman**. He will now be doing detailed area-weighted assessments of algal and macroinvertebrate densities across permanent transects as flows vary during the 'critical' month when water demand coincides with natural low flows to assess the temporal changes during 'artificial' drought in two rivers with varying extraction intensities. Marcus also plans a reach-scale flow manipulation experiment and is becoming more like an engineer every day. We also expect to have **Andres Diaz** (Murcia University) spend a few months working with Marcus, and supplementing his Spanish PhD on temporary streams with some comparative experimental ecology over here.

Also on the coastal lowlands, **Peter Hancock** continues his Hunter River work and is planning to assess siltation and subsurface invertebrate dynamics in response to a flow release in November. **Richard Marchant** and **Peter Lilywhite** will come up from Melbourne, rendezvous with the UNE team (**Peter Hancock, Paul Lisle, Trevor Stace, Phil Morris** and **Andrew Boulton**) and with **Dean Olsen** (University of Otago) at the Hunter and we shall freezecore the bed at several sites along the Hunter before and after the environmental release. It is also planned to freeze-core the Never Never River as part of **Phil Morris's** Hons project on artificial siltation as he recreates the fine-scale sampling pattern of Rouch's work on the Pyrenees brook. This follows on from **Amanda Byrd's** Hons sampling of the hyporheic zone following the 1-in-20 year floods that ravaged the coastal NSW rivers in Feb/Mar this year, and that we were lucky enough to have several months of pre-flood data. Meanwhile, **Wendy Miller's** PhD on urban stream ecology has gathered momentum and currently we are grappling with ways of separating the effects of urbanisation from exotic tree litter input - Wendy will be at her first ASL this year, enthusiastically seeking advice. Also at his first ASL will be **Ryan Szuch** from Pennsylvania who is spending a year's Fulbright here at UNE studying N-dynamics in the hyporheic zone. Anyone curious about jobs or postgraduate opportunities in the States could chat with Ryan about this for a glass of beer or a sausage roll.

Down on the coast proper, the estuarine end of limnology also continues apace with **Sarah Mika's** Hons project starting with a pilot study sampling meiofauna from three estuaries in the Solitary Island Marine Park prior to an experiment on sedimentation effects, in conjunction with some microbial ecology done by **Andrew Boulton**. **Rus Glover**, of CoastCare and commencing a Masters project, is trialing rapid assessment methods in several estuaries that are about to have their hydrology altered by changes in sewage releases from the Coffs Harbour area. This is in conjunction with monitoring work by **David Clayton** of the Coffs City Council and by the Marine Parks Authority whose new zoning plan has enabled **Paul Butcher's** PhD to include testing the effects of the creation of new sanctuary zones on muderabs in the park. Interesting how attractive this coastal work becomes in winter.

From

Andrew Boulton

Environmental Research Institute of the Supervising Scientist (*eriss*)

Darwin & Jabiru news

The Asian Wetland Symposium was apparently a great success, as reported by our man on the spot, **Max Finlayson**. Max jetted over to Malaysia to present a paper on *A strategic approach for characteristic wetlands: the Asian Wetland Inventory* and spend hours lobbying, debating and drinking copious cups of green tea.

Back here in the Top End, the cool, dry season mornings are almost over and the Build-Up is looming... but **Clinton McCullough** isn't phased. He's been loitering in the shady stream channels of Magela Creek, working on his PhD. Clint explains:

"Magnesium sulphate ($MgSO_4$) is a common mine contaminant formed through elevated rates of erosion of waste rock. However, the salinity arising from this salt has received very little ecotoxicological assessment and there is evidence from previous work at ***eriss*** that an increase in the solute concentration of natural surface waters, low in ionic strength, can alter the composition and structure of some aquatic macroinvertebrate communities. Because $MgSO_4$ is a major constituent of the Ranger Uranium Mine waste waters, a study has been initiated to examine its effects on the ecology of the receiving waterbody, Magela Creek, downstream of Ranger.

While laboratory toxicity testing will form a component of this study, this approach may have limited application due to low toxicity of the salt. The addition of very small salt concentrations to waters naturally low in ionic strength, moreover, could result in stimulatory effects (hormesis) and the consequence of this in the natural environment cannot be predicted. Therefore field experiments for this work have also been initiated and have involved the dosing of residual, dry season pools in Magela Creek, on a small scale, with different concentrations of $MgSO_4$ to determine a concentration at which harmful effects are observed.

The Traditional Owners of the area (Gundjeihmi) support the experiment and have been providing assistance to the project. The results of this study will be used to derive a safe dilution for the Ranger Uranium Mine to release $MgSO_4$ to Magela Creek." **Chris Humphrey (*eriss*)** and **Michael Douglas** (NTU) are supervising Clint's project.

Caroline Camilleri and **Alecia Hogan** are supporting Clint's work by carrying out toxicity tests with $MgSO_4$. The initial results were used by Clint to determine exposure concentrations for dosing his creek pools. The **Ecological Risk Assessment** team has also completed an investigation of the toxicity of U to the local algal species *Chlorella* sp., which is now in the write-up stage. These results have been incorporated with toxicity data using other local species, to derive a site specific trigger value for U to tropical freshwaters. This dynamic team's fearless leader, **Rick van Dam**, left recently to take up a position at SKM's ecotox labs in Sydney and we wish him well for the future.

John Lowry, our resident GIS expert, reports that the first phase of the landscape mapping project – initiated in response to the recommendations of the Independent Science Panel (ISP) – is nearing completion. The study describes the geomorphic landscape types present in the greater Alligator Rivers Region, including Kakadu National Park. The results of the study will shortly be available as a poster and as a report.

For more details about how the Supervising Scientist Division are implementing the recommendations of the ISP report, **Paul Lloyd** explains:

"Community concerns about the proposed Jabiluka mine led to a World Heritage Committee (WHC) review during 1999 and 2000 of the risks from the proposal and the activities of the Supervising Scientist in the Alligator Rivers Region. The assessment panel (the Independent Science Panel [ISP] of International Council of Science Unions) and the WHC found that the Supervising Scientist had identified all the principal risks and the proposal did not threaten the health of people or the biological and ecological systems of Kakadu National Park. Nonetheless, the ISP report contained 12 recommendations that were accepted in principle by the Australian Government at the WHC. These recommendations are currently being implemented by the Supervising Scientist, with the following progress:

- The role and membership of the Alligator Rivers Region Technical Committee (ARRTC) has been amended to meet the ISP's requirements for an Independent Science Advisory Committee. The revised ARRTC comprises a majority of seven members nominated by FASTS, and its role is to provide independent scientific review of the activities of the Supervising Scientist. Members with limnological expertise are Professor Barry Hart, who chairs the committee, and Dr Terry Hillman. The Committee will meet for the first time in November 2001.
- The existing Environmental Performance Review system was replaced in early 2001 with an annual environmental audit to the standard of ISO 14001, mid-term reviews and monthly site inspections for the Ranger and Jabiluka sites. The new auditing system is more rigorous and will add to the level of environmental protection in the Park.
- The Supervising Scientist is developing an environmental monitoring program to give greater assurances of environmental protection from Ranger and Jabiluka. This program supplements other monitoring undertaken by the mining company and the Northern Territory Department of Mines and Energy, and the on-going research by ***eriss***.
- A landscape wide and ecosystem analyses program is being developed to assess potential ecological changes due to natural events and human induced impacts such as mining or introduced species.
- The Supervising Scientist is also in the process of employing a water resource management specialist to assist in supervising the environmental management of mines in the region."

Also on mining issues: ANSTO (Lucas Heights) recently hosted a symposium in Darwin in which relevant studies on the Finniss River were presented. For decades the Finniss R. received polluted acid rock drainage from the Rum Jungle mine, until rehabilitation of the site in the late 1980s. The theme of the symposium was *The Finniss River: a natural laboratory of mining impacts – past, present & future*. Topics covered included quantification of contaminant transport from mine to river (past/future), pre- and post- remedial ecological studies (fish, macroinvertebrates, riparian vegetation, microbial indicators, diatoms), mechanism of copper tolerance in fish, ecological risk predictions/assessment, and biological archives of contaminants (freshwater mussels, crocodile bones). **Chris Humphrey**, **Paul Martin** and **Chris leGras** of ***eriss*** presented a paper on *Use of the freshwater mussel,* Velesunio angasi, *in the monitoring and assessment of mining impact in Top End streams*. These papers were presented and discussed in the context of proposed future mining at Rum Jungle (Brown's Prospect mine – copper, lead and cobalt mine). Symposium papers will be available shortly; interested readers should contact Ross Jeffree (ANSTO) for further details.

With all this deep science going on, I went to ask **Bob Pidgeon** what he had to report. He was in the throes of battle with his computer, hauling out leads and plugs and muttering darkly, accompanied by frantic beeps and an ominously blank screen. "My PC and VDU are AOK but the UPS is US and it's all just a lotta BS anyway..." so on that happy note, we'll depart! No doubt Max and I will catch up with some of you soon in Moama.

From

Abbie Spiers

WESTERN AUSTRALIAN NEWS

Murdoch University

It's reaching that time of year when field work is about to begin and when Honours students panic as deadlines draw closer. We have all been very busy just doing what we all do and so we don't have anything overly exciting to share. The end is near for the research project that **Jenny Davis** and **Megan McGuire** have been working on in collaboration with **Pierre Horwitz, Ray Froend** and **Bea Sommer** from Edith Cowan University and **David Hamilton, Carolyn Oldham, Barbara Robson** and **Emma Gale** from the Centre for Water Research at the University of Western Australia. The final product is an interactive CD aimed at aiding managers in predicting wetland response to changes in water quality and quantity.

From

Megan McGuire

Department of Conservation and Land Management

Here at CALM, we're mostly gearing up for field work. **Stuart Halse, Jane McRae** and **Dave Cale** have just been surveying waterbirds for the wheatbelt wetland monitoring project. Dave is also preparing a report on the first three years of this project and sorting samples for the fourth year. The wetland monitoring is part of the State Salinity Strategy, as is a biological survey of 230 wheatbelt wetlands. Adrian Pinder, **Jane McRae** and **Stuart Halse** are starting to number crunch the four years of chemistry data for this biological survey and will have a complete biological dataset (with about 1000 invertebrate species) as soon as soon as the remaining micro-invertebrates have been identified. Jane has spent the last few weeks identifying the copepods from the survey and consolidating our growing collection of copepods from various other projects.

Stuart will soon be heading north to the Pilbara region with **Mike Scanlon** and **Jim Cocking** to investigate the presence of groundwater fauna in surface habitats such as springs and upwelling zones. Stuart, Jim and Mike have also been busy finalising models and reports for the AUSRIVAS project and experimenting with sub-sampling techniques for live-picking. Jim and Mike have also been identifying invertebrates from the Ord River for **Andrew Storey** and from mound springs in the Kimberley region for the Western Australian Threatened Species and Communities Unit (WATSCU). A preliminary study of aquatic invertebrates from mound springs north of Perth (also for WATSCU) was undertaken recently by **Adrian Pinder** and **Melita Pennifold**. The results of this study proved sufficiently interesting to justify a more comprehensive survey, so Adrian will be heading back to those sites shortly. Adrian has also been identifying oligochaetes from northern NSW rivers for WSL Consultants and writing up the first Australian records of a worm otherwise known only from Lake Biwa in Japan.

Finally, we have had the pleasure of **Brian Timms'** presence in our labs over the past couple of weeks, while he is here collecting and describing Western Australian conchostracans and fairy shrimps. In between exclamations of "gee whizzy" and "wow, just look at that", he's been ducking off to some of our wheatbelt sites to collect more. He is now heading back east with a bunch of sites to sample on his way through the wheatbelt.

From

Adrian Pinder

MURRAY-DARLING FRESHWATER RESEARCH CENTRE

Well, Spot the Wonder Dog left the MDFRC on 18 July. Terry's sense of humour, warmth and unpretentious nature, to mention only a few of his wonderful personal qualities, will be sorely missed. Terry's research over the last 27 years has helped to reveal the immense value of billabongs to the health of the river system. Renowned for his love and commitment to the billabongs of the River Murray, Terry has been heard to say "he would die in a ditch for a billabong". Terry was going to do a little blurb for the newsletter but a lot of you will be seeing him at the 2nd Australian Wetland Forum and the 40th ASL Congress, so he'll catch up with you then.

Terry's new contact details are:

567 Brown Place, LAVINGTON NSW 2641
Phone: (02) 6025 4220, Fax: (02) 6040 4025
Mobile: 0408 690 121, Email: hillman.albury@bigpond.com.au

The Chair of the MDFRC Board, Dr John Langford, has appointed **Darren Baldwin** as Acting Director of the MDFRC, until a new Director is appointed.

After 13.5 years at MDFRC, **Russ Shiel** accepted a redundancy from CSIRO on July 30. He has returned to Adelaide, where he will continue to pursue the intricacies and interactions of aquatic microfauna. Or...'business as usual'.. at least, some of the time...the rest of the time it's the hard hat, welder and concrete truck, building an underground house in the Adelaide Hills. Russ' contact details:

R.J. Shiel (PhD), Visiting Res. Fellow
Environmental Biology, Adelaide University, S.A. 5005
Ph: (08) 8303-5294 Fax: (08) 8303-6222
Email: russell.shiel@adelaide.edu.au

As previously, fielding queries on systematics and ecology of aquatic microfauna, particularly protists, rotifers, cladocerans and copepods.

John Hawking attended the Worldwide Dragonfly Symposium in Gallivare, North Sweden from 18 to 29 July. At the symposium he presented a paper "Ecological partitioning of Odonata larvae in fish rearing ponds: Community structure and temporal development". He also presented a paper on the Australian dragonflies listed by the IUCN as endangered at the IUCN working group meeting, Chaired an Odonata ecology session and presented a talk on the virtues of attending the next symposium at Beechworth, Australia in January 2003.

John then spent several days with Dr Goran Sahlen (Uppsala University) helping with a joint project on "Egg development in Odonata", after which he flew to Braunsweig (Germany) and spent two week with Drs Frank Suhling, Peter Schridde and Reinhard Joedicke. Whilst there he gave a lecture "The ecology of Australian dragonflies: Survival strategies in a dry continent" at the University. This is an area of odonate research that Frank and Peter have their post graduate student working on in Namibia (South Africa) and they are keen to learn about adaptations of Australian dragonflies to drought.

Rod Oliver has been invited to work at the Lake Biwa Research Institute in Japan, on a Japanese Science and Technology Agency Fellowship (awarded through the Australian Academy of Science). Rod left on 29 July and will return to Albury in mid-October.

Whilst overseas, he will be looking at the cyanobacterial problems in the main basin of Lake Biwa, and the causes of this increasing problem. He will be assessing the movement of algae from the shoreline out into the lake and will be tracking the movement of the algae by utilising fluorescence techniques.

Darren Baldwin was overseas from 24 August until 11 September. He was invited to attend the International Phosphorus Transfer Workshop, held in Plymouth from 28 August to1 September, where he presented a paper. He then travelled to IGER (Oakhampton) to visit Phil Haygarth, the Centre for Environmental Hydrology (CEH) in Dorchester to visit Alan House, and CEH in Wyndamere to visit Colin Reynolds. He presented seminars at Dorchester and Wyndamere.

Gavin Rees was overseas from 24 August until 10 September. He attended the International Symposium on Microbial Ecology (ISME), which was held in Amsterdam, and he presented a paper titled "Interaction of the anaerobic nutrient cycling processes in freshwater sediments for P release". This work was co-authored by **Alison Mitchell** and **Darren Baldwin** (MDFRC). The paper describes their attempts to unravel the mechanisms involved in the release from phosphorus from sediments when they are subjected to anaerobic conditions. They have previously shown that the P release process is carried out by bacteria and in this work they hope to demonstrate changes in microbial community structure in response to the changes in sediment conditions. The ISME meeting is the major international meeting for microbial ecologists and attending the conference represents an opportunity to present some of the work we carried out as part of the CRCFE project examining freshwater sediments and nutrient dynamics.

In addition to attending the conference, Gavin also visited the Netherlands Institute of Ecology, Centre for Limnology. Microbiologist at the Centre have long been interested in nutrient cycling (particularly N dynamics) and microbial diversity. The latter are areas of research currently underway at the MDFRC. Gavin presented a talk on Microbial Ecology of the Murray River, carried out as part of the CRCFE lowland River project.

From

Rhonda Sinclair

NIWA AUSTRALIA

Ngaire Phillips and **Kym Seebohm** have been continuing their awareness raising efforts, with trips to Port Stephens, Adelaide and Sydney. **Ngaire** attended the Fenner Conference in Canberra on Freshwater Biodiversity and more recently the Stream Management Conference in Brisbane, where she presented papers on the conservation values of rivers. **Jim Cooke** and a contingent from NIWA in Christchurch (NZ) (**Vladimir Nikora**, **Derek Goring** and **Frazer Munro**) also attended the latter conference. In addition to enjoying the sunshine and warmth, **Vlad et al** generated a lot of interest in their river ecohydraulics research, with a demonstration of the acoustic doppler instrumentation being a major feature of the trade display for NIWA Australia. **Vlad** also presented a paper on some of the research results on a variety of projects, including flow-biota interactions. Anyone interested in finding out more about their work should contact **Ngaire** for more details.

Ngaire has also undertaken a couple of reviews of biological monitoring programs for local organisations.

Ngaire and **Jon Marshall** (DNRM) have been collaborating on a trial of MOPED (MOdelling Patterns in Environmental Data), a predictive modelling program based on neural networks, which has been developed by **Ian Jowett** (NIWA Hamilton). The program is fairly new and is free to bona fide researchers, so if you are interested in more details contact **Ngaire**.

Both **Kym** and **Ngaire** have also submitted a number of consultancy and/or research proposals recently. On top of all this, **Jim**, **Ngaire** and **Kym** continue to develop the marketing and business side of the company.

As indicated above, NIWA Australia also has strong links to NIWA in New Zealand. Here's an update on what some of the folks in the freshwater team at Hamilton are up to at the moment.

Mike Scarsbrook continues to pursue his interests in hyporheic and groundwater ecology. Mike has completed a suite of ecological studies on a lowland Waikato stream, including work with **Bob Wilcock** on shade effects on nutrient uptake rates. He also hosted a visit from **Prof. Bill Walley**, a world leader in the application of artificial intelligence techniques to the development of river health models.

When not changing nappies, **Kevin Collier** has been focussing on writing up studies on the role of wood in pine forest streams, lowland streams ecology and biomonitoring, and the transfer of aquatic carbon to terrestrial food webs through spider predation. Kevin has taken over the reins from **Ian Boothroyd** as leader of NIWA's freshwater biodiversity programme. He also attended the Fenner Conference on Freshwater Biodiversity in Canberra and learnt the hard way the value of using power point rather than slides!

John Quinn has enjoyed seeing land use and riparian management changes being put in place in the Mangaotama sustainable hill-land farming study in the Waikato after several years of research, debate, and planning by the Whatawhata Catchment Management Group. Questions posed by a stream ecosystem model developed by **Niall Broekhuizen** at NIWA led to stable isotope addition experiments on the role of different energy sources on carbon and nitrogen flow into invertebrate grazers, in experimental channels at Whatawhata. John and **Alastair Suren** (NIWA Christchurch) have continued development of Riparian Management Classification as a framework for planning riparian management within complex catchments. This complements the River Environment Classification development led by **Ton Snelder** (NIWA Christchurch).

Steph Parkyn spent the summer immersed in Auckland's urban streams and in between collecting invertebrate samples she began a photographic expose of artificial substrates that included, toilets, condoms and undigested corn. She has also been working with NIWA colleagues on some of the downstream effects that may occur as a result of riparian management (namely loss of sediment from stream banks and reduced instream attenuation of nutrients).

Kit Rutherford has had several approaches to use the STREAMLINE model (Rutherford et al. 1997) and predict the effects of shade or flow on stream temperature. Over the next two years, Kit will be working with **Stuart Bunn** and **Peter Davies** on modelling the effects of riparian shade on stream temperatures in SE Queensland and WA. **Niall Broekhuizen** has continued development of a spatially resolved ecosystem model for streams. The model focuses upon algae, heterotrophic biofilms and invertebrates, and their roles in nutrient cycling.

Rob Davies-Colley will begin work on large woody debris in native forested streams with Post-doc fellow, **Mark Maleason** and Rob will host **Richard Lowrance**, a well-known authority on riparian ecology and nutrient mitigation, as a NIWA visitor to Hamilton this summer.

From

Ngaire Phillips

Freshwater Biological Monitoring Unit, Department of Natural Resources and Mines (NR&M)

The Brisbane Exhibition is in full swing and as usual when this happens the westerly winds have started to blow through town and make the temperatures drop a few degrees. The lab here at Rocklea is now at full capacity as fieldwork has finished for a few months (it will start all over again in October) and everyone is busily leaning over microscopes, typing away at computers or planning holidays.

Deb Ramage has joined us for a few months working with **Satish Choy** on a report for the Consortium for Integrated Resource Management that documents current aquatic ecosystem research in Queensland and identifies future priorities, directions and collaborations in research.

Diane Conrick, Bernie Cockayne, Chris Thomson, Alisha Steward, Andrea Prior and **Peter Negus** have finished the fieldwork for the first round of the ambient monitoring in the state (**Diane** is already organising the second round starting in October). This program is the ongoing state funded continuation of the AusRivAS sampling. The same group has also finished the fieldwork (bug, diatom and macrophyte sampling) for the CRCFE D2 Salinity project in the southeast of Qld.

Jon Marshall, Bernie Cockayne and **Alisha Steward** are busily compiling all the datasets from the Condamine-Balonne Project that they hope to have finalised by the end of the August. **Martin Thoms** and **Melissa Parsons** from the CRCFE, Canberra, made a trip here to Rocklea to discuss flow statistics. They were to be here for a one-day whirlwind trip but got lost in fog at Canberra and had to spend an extra day in sunny Brissy. Everything was not so bad as during the unexpected nightly stopover they were entertained by **Jon** and his Citroens. **Jon** is also busy planning more fieldwork in Cooper Creek and the Warrego for the CRCFE Dryland Refugium project in September and has just presented a paper to the Stream Management Conference in Brisbane.

Chris Thomson and **Chris Marshall** have just put the finishing touches to a report on the condition of the Mitchell River, while **Chris M.** was packing ready for an excursion to 2 contrasting environs, snow skiing and Alice Springs. **Chris T.** is also presenting a paper at the River Symposium in Brisbane in September. **Chris M.** and **Peter** are establishing a pilot study looking at the appropriate indicators to be used to monitor environmental flows in the Fitzroy Catchment.

Glenn McGregor has been busily travelling around the State running water quality training sessions for SunWater field staff, before a well-earned break during September. **Jaye Lobegeiger,** meanwhile, has been working diligently looking at blue-green algae dots and dashes under the microscope, earning income for the group.

Satish Choy and **Ben Cook** of Griffith University made a presentation on the potential impact of translocated Red Claw crayfish at the 5th International Crustacean Conference in Melbourne during July. **Satish** has also been involved with the road shows around the state dealing with the National Action Plan for Salinity and Water Quality.

The unit has recently been amalgamated into a larger unit within the Natural Resource Sciences group of NR&M. With this will come a new name and possible shift in premises. Look in the next Newsletter to find out what, when and where.

From

Pete Negus

ASL REPRESENTATIVE RESERVES WORKING GROUP

PROGRESS UPDATE AUGUST 2001

The ASL Executive established a Representative Reserves Working Group in September 2000. The Group, convened by Jon Nevill, in turn established a wider reference group to include terrestrial and marine experts, as well as ASL members who did not wish to make the commitment involved in joining the working group itself.

The Group have a webpage accessible through the ASL's website. This page is also accessible through the OnlyOnePlanet website. A draft discussion paper has been available on this site since early June 2001. A second draft should be available by mid-September 2001. This paper is about 30 pages in length, with separate appendices running at about 100 pages. It is downloadable in MS Word97 format.

The conclusions and recommendations reproduced below are extracted from a paper authored by Dr Ngaire Phillips and Jon Nevill for the August River Symposium held in Brisbane. This paper, in turn, was extracted, with some variation, from the much longer ASL working group discussion paper.

ASL member interested in the project should check out the webpage, or email jonnevill@hotmail.com

Conclusions

It is clear that freshwater ecosystems are under increasing threat. Many of the threats are pervasive and intractable. Systems of terrestrial reserves have been established, and the largest of these, and those specifically targeted at wetland areas (such as Ramsar sites) undoubtably protect *some* representative samples of major freshwater ecosystems.

However, in spite of international, national and State-level commitments for the establishment of representative systems of freshwater reserves, only Victoria and the Australian Capital Territory have made serious attempts to establish such reserves. The Australian Capital Territory has inherent advantages due to its small size, and the large amount of public land within its jurisdiction, and here some impressive reserves have been created (considering the small size of the ACT).

Victoria led the nation with its 1987 State Conservation Strategy, the subsequent Rivers and Streams Investigation by the Land Conservation Council, and the eventual passage of the *Heritage Rivers Act 1992*. However, the initial vision of the Victorian program has not been realised, and the issue is now in need of urgent review in that State (discussed above).

Western Australia, the Northern Territory, Queensland, and New South Wales have not moved to implement their commitments (Nevill 2001). Tasmania's commitment is currently in draft form. This delay should be seen within the perspective of the need to establish the broader bioregional National Reserves System, which has occupied most Australian nature conservation agencies over the last decade. This has, by necessity, focussed attention at the bioregional and landscape level.

Most freshwater ecosystems exist at a finer level of detail, and have so far escaped priority attention within the National Reserves System.

It is time for this approach to change. Sufficient progress has been made at broad planning levels now to justify turning attention to ecosystems of finer detail - in particular, rivers, lakes, wetlands and aquifers. Freshwater ecosystems should now be highlighted for attention within the National Reserve System framework.

No Australian State has met its full Ramsar Convention obligations in relation to the preparation of comprehensive wetland inventories, using the Ramsar definition of "wetlands" (Nevill 2001). Partial inventories have been established, and these are valuable. They must now be expanded, using nationally agreed classification methods, to encompass all major freshwater ecosystems. These inventories can then be used to identify gaps in the existing reserve system. It is to be expected that the most significant gaps, and those which will be most difficult to fill, will relate to large midland and lowland rivers, and possibly aquifers. Classification and assessment methods of potential relevance to the development of comprehensive freshwater inventories are set out in Appendix 4.

There will be obvious difficulties involved in management issues due to the dependence of freshwater ecosystems on the condition and management of the wider catchment; however, just because something is difficult does not mean that it can't be done.

Successful implementation of national and State commitments to reserve systems rests on two fundamental premises. First, that Australia needs to establish a bioregional planning and management framework *capable of operating across all scales* and which is accepted by all sectors of government, industry and the wider community. Second, that in planning the National Reserve System it is essential to involve the wider community and all stakeholders earlier in the process of identifying and selecting areas for reservation.

Recommendations

No comprehensive evaluation has been carried out by any Australian jurisdiction to assess the degree to which freshwater ecosystems are in fact represented in existing reserves, it must be said that the commitments' made by Australian State governments (relating to the establishment of systems of representative freshwater reserves) *have not been met.*

We believe that Australian nature conservation programs are now at the point where consideration needs to be re-directed toward programs to protect ecosystems at a finer scale. Given the continuing and intractable decline of freshwater ecosystems over much of the Australian continent, it is now urgent that the development of representative freshwater reserves now be elevated, nationwide, to the highest priority.

Our two central recommendations are that:

- agreed National methods for the classification of freshwater ecosystems into ('representative') categories should be established, which can be incorporated into a comprehensive national inventory; and
- a national approach should be developed to enable the identification of gaps in the existing reserve system relating specifically to freshwater ecosystems.

These, we believe, should be initiated within the cooperative frameworks of the NRS and ANZECC, assisted by agencies such as AFFA, EA (wetlands program), the National Audit, and Land and Water Australia (including involvement by the National Rivers Consortium).

STATE FRESHWATER PROTECTION PROGRAMS

The ASL has established a representative reserves working group (see previous article). As part of the group's draft discussion paper, a comparative table outlining State programs (associated in some way with the protection of freshwater resources) has been prepared.

The full discussion paper is available through the ASL's website.

The comparative table is reproduced below in the hope that:
(a) it will be of use to readers wishing to gain a national perspective on the use of different program components, and
(b) readers will be able to correct or expand material contained in the draft table.

[Editors Note: Please note that this table is accompanied by 88 footnotes – readers should review the full table on the ASL website for clarification].

6.2.1 Summary tabulation: State Freshwater Biodiversity Program Components

(Source: adapted from Nevill 2001)

Issue	WA	NT	SA	Qld	NSW	Vic	ACT	Tas
Cumulative effects: policy or statute exists to support catchment-based caps on water-related development.	yes	part	yes	yes	yes	part	yes	no
Cumulative effects: caps are being developed well before allocations approach catchment capacity.	yes	no	no	no	no	no	yes	no
Representative reserves: policy commitments to develop systems of representative freshwater reserves.	yes	yes	no	yes	yes	yes	yes	yes
Representative reserves: the above policy has been implemented.	no	no	n/a	no	no	part	part	no
Representative reserves: comprehensive inventories of *all* freshwater ecosystems, capable of supporting the identification of RRs, are under development.	yes	yes	yes	yes	yes	yes	yes	yes
Representative reserves: comprehensive inventories are substantially complete.	no	no	no	no	no	no	yes	no
Programs are in place to identify and protect rivers of high ecological value.	no	no	no	yes	yes	yes	yes	no
A policy or statute exists encouraging integrated **surface / groundwater** management.	no	no	part	part	yes	no	yes	no
Integrated management of **surface / groundwater** exists recognising conservation targets in both and the need for dual demand management.	yes	no	no	no	yes	no	yes	no
Comprehensive **compliance** auditing programs exist, including air-photo recognisance of illegal dams and levees.	no	no	no	no	no	no	n/a	no
Effective action to detect and assess all significant non-**compliance**.	no	no	no	no	no	no	yes	no

Issue	WA	NT	SA	Qld	NSW	Vic	ACT	Tas
Policy / statute provides for **environmental flows.**	yes	yes	yes	yes	yes	yes	yes	yes
Environmental flows are being implemented.	yes	no	yes	yes	yes	yes	yes	yes
Management of **surface flows** is addressed by policy and statute.	yes	no	yes	yes	yes	no	yes	yes
Surface flows are being managed.	no	no	no	no	yes	n/a	yes	no
Policies discouraging **on-stream farm dams** exist.	no	no	yes	no	no	uc	no	no
Fish passage needs have been identified in policy, and are being effectively implemented.	weak	weak	weak	strong	strong	strong	strong	weak
Aquatic **intrinsic values** are clearly acknowledged.	no	no	no	no	yes	no	yes	no
State **threatened species legislation** (see notes for refs to other Acts)	no	no	no	no	yes	yes	no	yes
State **biodiversity strategy** (ud)	ud	no	ud	no	yes	yes	yes	ud
State statutory **controls on vegetation clearanc.**	yes	no	yes	yes	yes	yes	yes	yes & no
State **wetlands strategy** (ud)	yes	yes	ud	yes	yes	yes	yes	ud
State **natural resource accounting** framework.	no	no	no	no	no	no	no	no
State has an **enforceable water quality policy.** (ud)	no	no	ud	yes	no	yes	no	yes

ud under development
uc under consideration

Jon Nevill

EXECUTIVE TELECONFERENCE

ASL Executive Teleconference, Monday 6 August 2001

Present: A. Boulton, J. Chambers, P. McEvoy, J. Growns, M. Hart, J. Marshall, A. Spiers, M. Shirley, M. McGuire, S. Josey, P. Horwitz and R.Marchant.

Apologies: D.Nias and R. Sinclair.

1. ASL congress update: M. Shirley (from the organising committee) indicated that 120 registrations and 80 abstracts had been received so far. These figures will increase and it seems likely that three concurrent sessions will be held. The AGM will be on Sunday afternoon and it is planned to have all student papers delivered by this time so that winners can be announced at the annual dinner (after the AGM). It is hoped to send abstracts of student papers to A. Boulton in the next few weeks so that he can organise the judging of these papers. T-shirts bearing the design on the ASL medal will be for sale (at cost price). So far only a few bookings have been received for the AWF sessions to be held before the ASL congress. As the ASL is holding the risk on this it has been decided to reduce the amount of accommodation on which a deposit has been paid. The ASL still holds plenty of available accommodation, however.

2. Student travel awards: Seven applications have been received by R. Marchant. These have been sent to P. Boon for judging. M. Hart, P. Boon and R. Marchant will allocate approximately $2000 for these awards.

3. AWF update: No programme for this symposium is available yet but it is hoped that a programme will be on the web soon. Not all speakers have been finalised, including the one from the ASL. Some suggested names were discussed, which will be followed up by J. Chambers. P. Horwitz will have the AWF strategy from the Darwin meeting printed as soon as possible with ASL covering the printing costs.

4. Science meets Parliament Day: J. Chambers has one free registration which she is willing to give to any ASL member who could attend this function.

5. SIL donation: This donation ($35,000) from the profits of the recent SIL congress has been received by the Treasurer. R. Marchant explained that he and Ian Campbell (SIL congress chairmen) saw this donation as providing a fund by which students could be subsidised to attend future SIL congresses and other international scientific meetings. The name of the fund and the rules and regulations for its use will need to be considered by the executive. An announcement about the fund will be made at the next AGM.

6. ASL brochure and poster: P. Horwitz is co-ordinating these publications and it was agreed that he will have 2000 brochures and a number of A1 or A2 posters printed.

FASTS

MPS ASKED TO PICK THE TOP SCIENCE ISSUES
MEDIA RELEASE 17 JUNE 2001

Launch of "Science meets Parliament" Day

Australia's peak body for science and technology is asking Federal Parliamentarians to identify the most important science-based issues. These issues will be discussed at the annual "Science meets Parliament" Day, when scientists fly in to Canberra from all over Australia for individual meetings with Parliamentarians.

Two hundred scientists and technologists are expected to participate in the event, to be held on Wednesday August 22. Ms Jan Thomas, Vice-President of the Federation of Australian Scientific and Technological Societies (FASTS), said the event is an important part of building a bridge between the science community and Parliamentarians. "Science is clearly going to be a definitive issue in the election later this year," she said. "This is a highly strategic time for 200 scientists and technologists to come to Canberra for personal meetings with federal Parliamentarians."

New research shows that many politicians believe that Australian scientists do not interact successfully with politicians and decision-makers, and a significant number of the Federal and State politicians interviewed (34 per cent) believe that science and technology are "neither important or unimportant" to Australia's future.

"We have to show how science can make a difference," Ms Thomas said. "We have our eyes firmly set on helping build Australia into a modern economy, and that includes real careers and real prospects for our kids."

Parliamentarians are asked to choose issues from the following list:

- Water and salinity
- Manufacturing technology
- Nuclear, nuclear waste
- Agriculture and quarantine
- GMO engineering, biotechnology
- Environment and biodiversity
- ICT, fast high bandwidth connections
- Education and training - school, university and industry
- Commercialisation, innovation, industry research
- Mining and resource industries
- Brain drain, recruiting
- Climate change and greenhouse
- Health and medical issues
- Oceans policy and marine issues
- S&T funding by government and industry
- Communicating science to the community
- Science in the local electorate

Information: Toss Gascoigne, Executive Director Email: fasts@anu.edu.au

"BRAIN DRAIN" STUDY MEDIA RELEASE 17 JULY 2001

Brain Drain Study "only Chapter One"

Australia's peak body for science and technology said today (Tuesday) that the Monash University study on brain drain told only part of the story.

Ms Jan Thomas, Vice-President of the Federation of Australian Scientific and Technological Societies (FASTS), said the study camouflaged the real issues behind the story. "We suspect that Australia is losing its top talent, the high-potential people hand-picked for their special abilities," she said. "These people are being snapped up by institutions overseas which can offer top facilities, good salaries and the funds to carry out research in a comprehensive manner."

Ms Thomas said Australia was simply not able to compete for talent in the hot areas of science and technology, the areas like biotechnology, mathematics and nanotechnology. "In most areas, Australia plays in the second division," she said. "We can't compete on salaries, we can't offer young scientists a career path, and the funds for research and infrastructure are below world standards. "International science is intensely competitive. While Australia offers a wonderful lifestyle, top scientists will only compromise so far when it comes to working standards."

Ms Thomas said the Monash study, which was released yesterday, only told half the story.

"Knowing the numbers is one thing, but we do not know enough about the scientists, engineers and technologists coming in to make a proper assessment of their contribution. "What impact are they having on Australian industry and Australian research?" she said. "No-one knows - they could be driving taxis in Sydney."

Ms Thomas said FASTS had suggested a tracking study, to follow the progress of recent arrivals in Australia. "It would help us gain a more complete picture of how they were fitting in to their new country. New arrivals offer a rich potential resource to Australia as long as we make the best possible use of their skills and abilities," she said. "People still speak of the enormous contribution the Dunera boys made to Australian life in the years after WW II."

Ms Thomas said the science community supported the idea that international travel and experience was an important part of a young scientist's career. "We encourage young scientists to gain experience overseas, to work there for a few years," she said. "We'd also like them to feel welcome to come home."

Toss Gascoigne, Executive Director, FASTS Email: fasts@anu.edu.au

CIRCULAR FROM FAST'S PRESIDENT – EMAIL 19 JULY 2001

We have just had a vigorous and positive Board meeting, and I wanted to bring all our Members up to date with the progress FASTS has made.

1. "SCIENCE MEETS PARLIAMENT" DAY

One hundred Parliamentarians have already responded to our invitation to meet with scientists on Wednesday August 22 in Canberra, and we expect that three quarters of all Federal MPs will put aside 45 minutes or so to discuss Australia's national investment in S&T.

We've asked Parliamentarians to nominate what issues they would like to discuss; and water and salinity come out top with 24 mentions so far, ahead of education and training (14) and climate change and greenhouse (13).

Some discipline areas have been active in nominating scientists and technologists to come to Canberra for the two day event, but others have been slow to take advantage of this wonderful opportunity to make the case for science in an election year.

Clearly we cannot take this event for granted. It requires the active support of all Members. The easiest way to register is on our web site: www.fasts.org

2. THE ELECTION

We are running into election mode. The Government has introduced its policies in "Backing Australia's Ability", which includes many of the ideas FASTS has been proposing. We must commend Minister Minchin for being able to carry these ideas into cabinet. On the downside, many of these proposals do not kick in as early as we would have liked, and there are still serious gaps relating to university base funding and to CSIRO.

The ALP has released its Knowledge Nation Report. The report is a smorgasbord of spending opportunities and includes much that has come out of "Backing Australia's Ability", the Chief Scientist's Review and the FASTS' policy document. The challenge for the ALP is to choose a set of policies that they are prepared to back with funding, and the challenge for the science community is to encourage them to choose wisely. It is clear we will not hear these until the election campaign is formally declared.

It is exciting that Science and Technology issues are high in the thinking of both major parties for the first time for some years, and this provides important opportunities.

3. NATIONAL INNOVATION AWARENESS COUNCIL

The Government has established this new Council, to be chaired by David Miles, to advise on raising community awareness of innovation, science and technology, and on the implementation of the $35 million National Innovation Awareness Strategy.

The first $1.2 million funding round has been announced, with grants of up to $100,000 being awarded to projects that promote enhanced awareness of innovation and entrepreneurship in addition to projects in science, engineering and technology awareness.

The closing date for applications is Thursday 30 August. Further information is available from ISR on 02 6213 6455.

4. WORKSHOP FOR MEMBER SOCIETIES

The Board meeting endorsed a proposal that FASTS should investigate the possibility of running workshops for our Members, concentrating on helping them deliver benefits in the most efficient way.

The general squeeze on the science sector has placed some professional and learned societies under pressure, and the Presidents of our Members identified the following five issues as their main concerns:

a. Delivering benefits to members
b. Finding, motivating and coordinating a volunteer workforce
c. Finding and working with professional help - executive and communication officers
d. Communicating with members, including finding what members want
e. Influencing policy and raising the profile (including use of media)

The Executive is presently considering the best way to get these workshops underway.

5. PARLIAMENTARY SCIENTIFIC FELLOWS

The US has a program of placing scientists in Congress to work for individual members of the House or the Senate or on Congressional Committees. The appointments last for a year, and help make science a natural part of the Congressional climate.

The Board invited Dr Lesley Russell to talk about her experiences as the first Australian national to be appointed to one of these positions; and we are now considering how this program might be introduced into Australia.

6. NEXT COUNCIL MEETING

The Annual Council of FASTS enables the Presidents of all Member Societies to meet with the Board and Executive to discuss policy issues, and to put concerted advice to the Board both on its performance and for future actions.

Council this year will be held in Canberra at 9.30am on Monday November 19. All Members are entitled to send one representative to Council.

A brief AGM will precede Council. There will be at least one vacancy on the Executive, and anyone interested in these positions should contact Toss Gascoigne in the FASTS' office. Professor Chris Fell will take over as President of FASTS in November. He led an excellent discussion on "FASTS - the next ten years" at the Board meeting, and is gearing himself up for the Presidency.

7. THE PRIME MINISTER'S SCIENCE COUNCIL

As President of FASTS, I am a member of the PM's Science, Innovation and Engineering Council. This is a wonderful opportunity to discuss policy issues with the PM, leading members of his Cabinet, and other heads of national science groups.

Ken Baldwin stood in for me at the last PMSEIC meeting as I was overseas. He reported an intensive day, beginning with a dinner hosted by the PM, followed by a morning meeting with the PM and half his Cabinet; and an afternoon meeting for the scientist and engineer members of the Council. Details of discussions are confidential. The main items were on commercialisation of public sector research, minerals exploration process, developmental health and wellbeing, and biodiversity.

8. THE FOURTH FASTS' "OCCASIONAL PAPER"

The paper by the Australian Society for Parasitology has been finalised and is ready for publication. This 20 page document outlines the possibilities Australia ignores and the threats we face if we continue to neglect investment in science.

FASTS is assisting with editing, printing and launching this paper. Other Members interested in a paper from their perspective should discuss it with our Executive Director, Toss Gascoigne.

A copy of the paper will be sent to all Member Societies in September.

9. MEMBERSHIP FEES AND FASTS' FINANCES

FASTS' finances have been well managed over the past few years, and I am happy to report that we have now achieved our goal of having a year's operating funds in reserve. Whilst this demonstrates responsible financial management, it also provides FASTS with the opportunity to extend our range of services to our member societies. The above mentioned workshop is one example - several others were discussed at the most recent Board meeting.

I would like to thank all our member societies for your support over the previous year, and we look forward to continuing to raise the profile of science and technology on the political front in the coming year. Invoices for the annual subscriptions to FASTS will shortly be sent to all Members.

We will soon be contacting you to find out the number of full members of your society as of 30 June 2001.

10. THE INNOVATION ACCESS PROGRAM

In launching this new program, Minister Nick Minchin said that the new IAP drew on the successful aspects of the Technology Diffusion Program and aimed to increase access to the 97 per cent of scientific papers that Australia did not produce.

IAP offers support for a broad range of activities to build Australia's connectivity with the needs of both the business and research community and innovation in the rest of the world.

This could include funds for visits, conferences, fellowships and targeted missions to key economies. The emphasis is on building linkages and accessing global research and development. More details on www.innovation.gov.au, or the AusIndustry Hotline 13 28 46.

Peter Cullen, President, FASTS
Toss Gascoigne, Executive Director, FASTS fasts@anu.edu.au

THE "SMP" NEWSLETTER, MEDIA RELEASE 27 JULY 2001

A quick update on "Science meets Parliament" Day.

1. PARLIAMENTARIANS
136 Parliamentarians have accepted our invitation to meet on SmP Day. This includes five cabinet ministers.

2. SCIENTISTS AND TECHNOLOGISTS
Eighty four scientists have registered, about half the number we need. We can't take this event for granted!

A list of those Member Societies represented is at the bottom of this message.

3. BIOTECHNOLOGY MEETING
There will be a special meeting for anyone interested in biotechnology, at 10 am in the upstairs dining room at the National Press Club. Biotechnology Australia are going to release some new figures on public opinion in Australia on biotech.

Contact Jodie Varnai for details: Jodie.Varnai@isr.gov.au

4. NANOTECHNOLOGY
And there will be a similar special meeting for anyone interested in nanotechnology, in the Boardroom at the NPC at 11 am.

Contact Vijoleta.Braach-Maksvytis for details: Vijoleta.Braach-Maksvytis@tip.csiro.au

5. MR BEAZLEY ACCEPTS
Leader of the Opposition has accepted our invitation to address all participants.

This will be in the Main Committee Room at Parliament House, at 9.15 am on Wednesday.

6. SENATOR VANSTONE'S BREAKFAST
Senator Vanstone invites all South Australian scientists to breakfast with her.

Her office will contact you!

7. THE MINISTER'S MORNING TEA
will be in the Main Committee Room at 11 am on Wednesday.

8. LAUNCH OF ASTRONOMY MIDTERM REVIEW
by newly-announced CEO of the ARC, Vicki Sara, at the Minister's morning tea event.

9. WILLING TO DO MEDIA?
We will ask all registrants if they are willing to act as media spokesperson in their home town.

10. IS YOUR SOCIETY REPRESENTED?

(These figures are correct as of Thursday, and do reflect the latest registrations.)

Note that some individuals are members of a number of different bodies, and just chose one.

Australian Institute of Biology (2)
ANZ Society for Cell and Developmental Biology Inc (2)
Australian Society for Biochemistry and Molecular Biology
Australian Society for Biophysics
Australian Society for Microbiology (2)
Australian Society for Parasitology
Genetics Society of Australia Inc. (2)
Australian Geoscience Council
AusIMM (2)
Australian Geoscience Information Association
Australian Institute of Geoscientists (2)
Geological Society of Australia (2)
Petroleum Exploration Society of Australia
Australian Mathematical Society (3)
Aust Mathematical Sciences Council
Mathematics Education Research Group of Aust'asia
The Royal Australian Chemical Institute (5)
Australian Marine Sciences Association (2)
Australian Society for Limnology
Australian Psychological Society
Astronomical Society of Australia
Australasian Ceramic Society
Australian Institute for Physics (8)
Society of Crystallographers in Australia Inc
Ecological Society of Australia
CSIRO Staff Association (6)
Australian Council of Deans of Science (4)
CRC Association (12)
Council of Australian Postgraduate Associations

Toss Gascoigne, Executive Director, FASTS, Email: fasts@anu.edu.au

New Chairman Of ARC To Launch "Science Meets Parliament" Day: Media Release 6 August 2001

"Science meets Parliament" Day will be launched at the National Press Club by Peter Wills, AC on Tuesday 21 August. Nearly seventy per cent of all Federal Parliamentarians will have individual meetings with scientists and technologists on Wednesday 22 August.

The event is organised by the Federation of Australian Scientific and Technological Societies (FASTS). One hundred and thirty four MP's have accepted an invitation from FASTS, out of 192 responses so far.

Professor Peter Cullen, President of FASTS, said he is delighted with the response. "There is a growing awareness among politicians that science is fundamental to many of the issues they need to address," he said. "Parliamentarians are expected to face an incredible array of issues, from salinity and GMO engineering, to nuclear waste and medical research. Our 'Science meets Parliament' Day brings the experts into Parliament House for a day.

Mr Wills was appointed Chairman of the restructured Australian Research Council in July this year, and will make the keynote Press Club address. He will address the issue of the national investment in science, research and higher education in his talk. Two years ago he Chaired the Health and Medical Research Strategic Review and its Implementation Committee. The Wills' Review has been widely credited at stimulating Government action to double funding for medical research over a five year period.

Professor Cullen described the participation of Mr Wills as 'a real coup' for FASTS. "Mr Wills is a man who can speak with equal facility to Government, to industry, and to researchers," he said. "The ARC is Australia's principle funding body for university research, and the Government recently announced plans to double its funding, in 'Backing Australia's Ability'. "The research the ARC funds today will pay dividends to Australia for the remainder of this century. Mr Wills' role as Chairman will be crucial."

Scientists and technologists are invited to register for "Science meets Parliament" Day. Registration form and the full program is on the FASTS' web site: www.fasts.org

Information: Toss Gascoigne Executive Director, FASTS, Email: fasts@anu.edu.au

AN UPDATE ON "SCIENCE MEETS PARLIAMENT" DAY RELEASE FROM FASTS ON 9 AUGUST 2001

1. Registrations by State:

NSW	41	Qld	12
ACT	34	WA	4
Vic	31	Tas	0
SA	14	NT	0

Any registrations from Tasmania, the NT, WA and Qld are particularly welcome!

2. Registration by interest

We asked scientists and technologists to nominate areas of expertise. And we asked Parliamentarians to choose from the same list. Here are the preliminary results:

"Are there any particular issues you would like to discuss? (You may nominate more than one)"

MPs	Scientists	Issue
41	16	Water and salinity
7	7	Manufacturing technology
12	10	Nuclear, nuclear waste
19	16	Agriculture and quarantine
15	24	GMO engineering, biotechnology
16	32	Environment and biodiversity
7	1	ICT, fast high bandwidth connections
30	68	Education & training - school, university & industry
17	34	Commercialisation, innovation, industry research
11	15	Mining and resource industries
10	24	Brain drain, recruiting
22	13	Climate change and greenhouse
20	18	Health and medical issues
10	1	Oceans policy and marine issues
5	26	S&T funding by government and industry
6	28	Communicating science to the community
24	6	Science in the local electorate

Plus 5 MPs said ALL these issues were of interest.

So - where are you, ICT and fast bandwidth scientists? Or people to discuss oceans policy and marine matters? And climate change? And water and salinity? This is your big chance! All participants need to be prepared to talk about science in the local electorate.

We'd like to close off registrations early next week so we can begin the process of matching up scientists and politicians, so sooner is good. Latest program or to register: www.fasts.org

And could all registrants please get their cvs in to me (as text, not as attachment) at this email address. 120 words written at 12 year old language (some scientists take a pretty optimistic view of both these parameters!).

Toss Gascoigne, Executive Director, FASTS, Email: fasts@anu.edu.au

FASTS Releases Election Policies
Media Release 21 August 2001

Forget Tax - Science holds the Future

Australia's scientists today (Wednesday) called for a greater national investment in science, research and higher education. Professor Peter Cullen, President of the Federation of Australian Scientific and Technological Societies (FASTS), released FASTS' policies for the next election.

He said the most important things for Australians were jobs and the quality of their environment. "Science and technology can deliver both, but only if Australia builds up its investment in these areas," he said.

"Getting back on track will require a significant national investment, to breath life into our universities, and lift Australian spending on science and research to the average figure for OECD countries. "That's a big decision for the electorate, but there comes a point when people get sick of poor services, never-ending queues on phone lines and limited public services. People are prepared to forgo tax cuts if it means quality outcomes. "At the moment, we live in a pot-holed society."

Professor Cullen said Australian politicians spent too much time arguing about tax, and not enough debating issues which will make a real difference. He called for decisive action to address the chronically low number of scientists working in industry. FASTS is proposing a program to encourage industry to employ more young scientists with post-graduate qualifications.

"It's good enough for Singapore, and it has brought new high-technology industries to that country," he said. "It would help bring our industries up to speed with the possibilities of new technologies, and would be a powerful selling point in attracting new research-intensive industry to Australia."

He said Australians did not enjoy the perception that they lived in a country that was becoming increasingly irrelevant to the twenty-first century, except for its sporting achievements. "We might smile on the outside when they describe the Australian dollar as 'the Pacific peso', but inside it hurts," he said.

"It hurts even more because of the implication it carries, that important people in the world perceive see Australia as a country fading away after a great start."

Media are invited to a media conference in Room 2S2 at 10 am on Wednesday August 22. This conference will also have spokespersons from other national bodies representing science, higher education and industry.

Toss Gascoigne, Executive Director, FASTS, Email: fasts@anu.edu.au

ALLIGATOR RIVERS REGION TECHNICAL COMMITTEE MEMBERS

To all those people who nominated for a position on the Alligator River Region Technical Committee, the FASTS' Executive has considered all applications, and the following people have been informed of their membership on the Committee.

Name	Position	Organisation	Field
Prof. Barry Hart	Professor of Environmental Chemistry	Water Studies Centre and CRC for Freshwater Ecology Monash University	Environmental Chemistry (as applied to surface water systems)
Dr Jill Fitch	Director, Radiation Protection Branch	South Australian Department of Human Services	Radiation Protection and Health Physics
Prof. Douglas Holdway	Head, Ecotoxicology & Oil Spill Research Group	Department of Biotechnology and Environmental Biology Royal Melbourne Institute of Technology	Ecotoxicology (as applied to surface water systems)
Prof. Gerald Nanson	Professor	School of Geosciences University of Wollongong	Geomorphology
Mr Ray Evans	Director	Salient Solutions Australia Pty Ltd	Hydrology and Hydrogeology
Dr Terry Hillman	Former Director	Murray-Darling Basin Freshwater Research Centre, Albury	Freshwater Ecology
Dr Carl Grant		Faculty of Science – Ecosystem Management University of New England	Plant Ecology (as applied to minesite revegetation)

Other Members:

Name	*Representing*
Mr Peter Wellings	Parks Australia
Dr Anthony Milnes (EWL Sciences)	Energy Resources of Australia Ltd
Mr Shane Maraldo	Hanson Australia Pty Ltd (formerly Pioneer International Ltd)
Mr Steve Roeger	Northern Land Council
Mr Tony McGill	NT Department of Mines and Energy
Dr Arthur Johnston	Supervising Scientist

A POSTCARD FROM THE FREE MARKET

I'M SORRY, YOUR TIME IS UP – YOU SHOULD HAVE STARTED AT THE END!

So, you've only just finished explaining how your Surber Sampler differs from the 2 million other Surber samplers, or how you transformed the data so you could do the 5 way ANOVA with replication, half-pike and twist, or just shown the 15th slide of all your study sites (only 10 sites to go) and, ...

. . and the bell goes (or, in the case of the Canberra Fenner Conference, the dolphin squeaks).

What, what do you mean there's only 2 minutes to go?!

Twelve minutes is not a long time. Statisticians will tell us that twelve minutes is only 0.20 of an hour (probably plus or minus some error factor). Philosophers will tell us that twelve minutes is only an arbitrary human construct of time, and so has no true meaning. Social scientists will tell us it's the average time spent shaving by English speaking adult males each day. And Conference Organisers will tell us that that's all the time you have to deliver your conference presentation.

Geez, you've just spent 3 years working on this thing. To you, it's possibly the greatest piece of work so far done in this country. Elegant design and statistics, clear cut conclusions, important implications .... and a lot of hard work. And they expect you to tell the story in 12 miserable minutes.

Twelve minutes! Of course, that's less the minute that the previous speaker ran over time; minus the 30 seconds that the session chair spent introducing you (consisting of mispronouncing your name and repeating the title that you will say again in the first sentence), minus the extra minute that the high-tech powerpoint machine takes to re-load up after the mysterious "Error! Windows Protection Error. dll file not found" message, minus the 15 seconds that it takes you to work out which button works the aforementioned high-tech machine, and the 7 seconds you have to wait for the autofocus to zoom in and out, minus the 5 seconds it takes to find the ON button on the laser pointer, minus 2 seconds while you watch the laser point wobble and waver and wonder if anyone will notice how nervous you are.

Yes, we do notice. And it's no wonder. The 12 minutes to tell your story actually means about 8 or 9 minutes.

And as your time dribbles away, you have to make on-the-spot decisions about what is important, and what needs to be left out. Because you know the session chair is a bastard and has no sympathy whatsoever for your talk. All that matters to him/her is that you are the last talk before lunch, and if the other concurrent session finishes on time, and if you go on late, there will be a hell of a queue, and all those tasty little quiches will be gone before he/she gets there (leaving only the curried egg sandwiches).

And so you rush, thinking frantically as you go where you can make up the time. Thinks: "I'll leave out the joke about the mayfly and the frog (pity, it was a good one). I won't acknowledge my co-authors (it's on the slide anyway). Cutting out acknowledging the sponsors will save a few seconds ..... no wait, there's one of the sponsors in the audience .... better leave that in".

All the while, you keep talking. The script was carefully prepared and rehearsed so you can do it in your sleep. Resulting in some strange questions in the morning. But you can talk and think about other things at the same time. So no-one in the audience knows that you are saying one thing and thinking a few paragraphs ahead and desperately editing as you go. Until ... ...

"Doing well, a few seconds saved. I'll just leave the bit about how I transformed that data out ..... no wait, there's that statistician in the audience ..." (for the moment, let's assign him a random set of identifying letters – say, GQ) ... "and he's looking quizzical, I bet he's wondering about the transformation ... better leave that in ... oh no, he's still looking askance ... better add a bit about why I did it ... reference to Sokal and Rohlf (**Authors note**: you can tell the last time I did any statistics) . still doesn't look convinced add a bit more on the derivation of the statistical test ."

And so you deviate from the script and spend 10 times as long as you intended.

And the same thing happens time and again with methods. You mention something and someone in the audience perks up and looks expectantly at you. If you notice them, you go into more detail that required for the rest of us, and you go off track.

But eventually you get to the results. The ordination plot that you base all your conclusions on comes up on the big screen. Looking at it, you suddenly realise that, blown up so large, the groupings don't seem to be as distinct as they were on the small computer screen. Suddenly, the outlier seems to be a lot further away than before. The groups seem to merge into one big random assortment of coloured dots. "Better just explain this a bit more". GQ closes his eyes. "Oh no, he's not convinced, better spend a bit more time on this ....". And ....

..... and the dolphin squeaks. Times almost up and you have only just got to the results (or are still on the methods).

The last 2 minutes of your talk are just a blur. Trying desperately to get to the conclusions and implications – the reason you did the work. But you never recover. Before you even get to the good bits of the talk, you catch the bastard session chair stand up in the corner of your eye, shuffle a bit, and wander onto the stage. Time is up.

The conference talk is an extremely important part of the science process. But, far too often, talks that are meant to fit into 12 minutes are diminished in value when the speaker simply goes into too much detail about side issues, rather that the conclusions, and the implications. They are the vital parts of the talk. That's why there are people in the audience. So you need to get to them as fast as you can. And with time so critical (maybe we really need longer for the talks than 12 minutes, but we'll leave that for another time), every second you can save not dealing with side issues is a second saved for talking about the real points.

A few suggestions:

1. Leave out the slide that gives the structure of the talk. Oddly, they always say that "my talk will start with some starting comments, have some bits in the middle, and will end with the conclusion." Chuck it - we don't remember them, we don't sit there thinking "aha, the middle bits are next", and we don't care if you deviate from the list. Save yourself about 30 seconds.

2. Never look at statisticians in the audience. They always look quizzical. And it's a fair bet they are wondering if there'll be any of those tasty little quiches left, not wondering about your transformation.

3. If you have to put up an ordination plot, leave flash it up and move on. Don't look at it (a giant image always looks different). Just say "From the plot it is obvious that ...." move to next slide ...."[insert your interpretation here]".

4. Maybe wait until you are really famous (or maybe move to get overseas citizenship). Then they'll give you a keynote speech and you can talk for half an hour.

But perhaps even better:

Start your talk with your conclusions. The first thing you should say is: "In the following talk, I will try to convince you that ... .". Too many talks seem to be written in the format of a published paper – introduction, methods, results, discussion, conclusion. And written in that order – so a lot of unnecessary detail gets put in.

So start with the conclusions. And keep them in mind while you write the talk. Then, it should be clear to you what issues, methods and results are vital to lead to those conclusions. And only include them. You should find that the talk is more coherent (both to you and the audience). And, unless you are trying to prove the unifying ecological theory, you should be able to fit it all in during the allotted time. Oh, maybe as well leaving a few seconds for the frog and mayfly joke.

ARTICLES

INVENTORY AND RISK ASSESSMENT OF WATER DEPENDENT ECOSYSTEMS IN THE DALY BASIN

As part of a larger assessment of environmental flow requirements for the Daly basin being conducted by the Department of Lands, Planning and Environment (DLPE), *eriss* was commissioned in March 2000 to undertake an inventory and risk assessment of water dependent ecosystems in the Daly basin (the report is due to be released in September 2001). The specific aims of the study were to:

- map and store in a GIS the area, location and extent of a range of water dependent ecosystems in the Daly basin;
- establish threats to these ecosystems from forecast and existing water use and land management practices; and
- identify which ecosystems are most at risk and where possible provide an assessment of the extent of this risk.

The Daly basin (19 400 km^2) occupies approximately 36% of the catchment of the Daly River. The Daly has the largest flow of all Northern Territory rivers and – due to the vast underground aquifers supplying the river, reliable flows of good quality water and areas of high potential soils – is a region where water resource and agricultural development is being given serious consideration. Given this situation, and in line with Australian national and water reform processes, the potential environmental effects of any such development are also being considered.

The study was conducted in two stages. First, an inventory of the wetlands was undertaken. This included the development of a GIS platform and the collection of data from field surveys and remotely sensed imagery, and available reports and maps. For the purpose of mapping the distribution of wetlands in the Daly basin, heavy reliance was placed on the availability and accuracy of existing information. This included 1:50 000 topographic maps compiled by the Australian Defence Force and the land unit maps of the Daly basin compiled by the DLPE. The distribution of wetlands and the overall extent of the major wetland types in each of the eleven sub-catchments that comprise the Daly basin were described and full advantage taken of the unusually good record of historic discharge data on the perenniality, seasonal distribution and variability of flows in the Daly River.

This information was then used in the risk assessment, which was undertaken using a framework formally agreed by the Ramsar Convention on Wetlands. To allow the demonstration of wetland risk assessment as a future planning tool, a Land Use Concept Plan was developed in consultation with departmental officers and an overview of the existing and forecast land use activities that may pose a threat to wetlands in the Daly basin are demonstrated. The focus is on threats to the water regime. The report outlines the existing and forecast extent of land use in the Daly basin by utilising the GIS to determine and predict the wetlands that are most at risk from various threats. The existing and projected land uses in the Daly basin that pose the most risk to the wetlands in terms of altering the water regime are agricultural activities such as crop farming, horticulture and pastoral activities utilising improved pastures, and urban development. Unless appropriately managed, the threats associated with these activities have the potential to result in negative impacts to a range of wetlands on both a local and basin-wide scale. Dam construction, if it were to proceed, would represent a major threat to many of the downstream channel and channel-dependent wetland habitats in the Daly basin.

George Begg, eriss

CONSERVATION OF LAKE ECOSYSTEMS

THREATS FROM INAPPROPRIATE, OPPORTUNISTIC DEVELOPMENT

Since being forced to confront the Victorian Kennett government in 1997 over their plan to replace 12ha of a rare Yellow Gum Grassy woodland at Bannockburn with a series of sewerage lagoons, I have been sensitised to short sighted planning decisions. In the Geelong area, I have joined various groups to protest over alienation of public land or destruction of riverine ecosystems by local councils and state governments who we considered had been "poorly advised". No doubt you have all observed the phenomenon of the local business community, with little ecological understanding, hatch some scheme for making a few dollars at 'very little cost' to the environment.

Early this year Fiona and Alun Morris of the Gnotuk homestead at Camperdown, made contact with the ASL email list requesting help in opposing a sudden and inexplicable change in policy by the (newly amalgamated) Corangamite Shire. The shire had issued 4 building permits, allowing locals to erect domestic dwellings and sheds within the craters of Lakes Gnotuk and Bullen Merri. Most conservation oriented people in the region considered this at best unwise and a campaign begun.

RPD Planning consultants from Bendigo were engaged to conduct a consultation process and a series of public meetings and interviews were conducted. The most heartening aspect of this process for me was being able to revisit some of my Limno lecturers from Monash Uni. in the 1970's. Together with Ric Fallu, Rick Tudor and David Churchill, I had been thrilled to be part of a Makarith core sampling of Gnotuk. The very blokey corer loses the top part of the core on exiting, and Ric and I hand sampled the top sediment layer using SCUBA. David attended the fiery public meeting in Camperdown and Bill Williams managed to find time and strength to voice his concern over the local planners shortcomings. I had been concerned that the ASL was too reluctant to take part in debates over natural resource management, but was very encouraged by the number of contributors in all disciplines with an interest in the lakes.

Roger Jones from CSIRO and David Churchill clarified the role of the lakes as massive rain gauges and climate recorders. Bernie Joyce at Melbourne Uni. and Neville Rosengren at Bendigo, have also been keen to the geological significance of the site recognised. Now it appears that the review has been completed but RPD's website [http://users.netcon.net.au/~rpdgroup/lakes/lakes.htm] had no fresh information at the time of writing. This site houses several of the submissions in pdf format. The Warrnambool Standard's website, [http://the.standard.net.au/] has been a reliable reporter of developments if you wish to follow up.

The ABC's Stateline is currently filming a short documentary on the Lakes with Roger and Bernie. Victorians can keep a look out for it.

On a new front, the very beautiful Lake Elizabeth, near Forrest in the Otways, was listed as a site of National Significance by Neville Rosengren in 1984. [See Rosengren, N. (1984) 'Sites of Geological and Geomorphological Significance in the Shire of Otway'. Department of Conservation, Forests and Lands - Environmental Studies Publication No. 399, for addition information].

The Otway Ranges Environment Network, which keeps an eye on the logging branch of Victoria's DNRE, has alerted us to the fact that part of its catchment is about to be logged (see website for details: www.oren.org.au). A family picnic will be held at Lake Elizabeth in mid September as part of Biodiversity month.

Stuart McCallum, Email: smccallum@geelongcollege.vic.edu.au

ANNOUNCEMENTS

AUSTRALIAN WETLAND FORUM – AWF2

Thursday, 27 September 2001 at Moama, New South Wales

The 2nd Australian Wetland Forum will take place at the Rich River Golf Club Resort, Moama (NSW) on the Murray River

AWF2 is supported by:

Australian Society for Limnology
Society for Wetland Scientists (Aust)
Wetland Care Australia
World Wide Fund for Nature (Aust)

AWF2 will build on the strategy to stop and reverse wetland loss and degradation that was developed in AWF1 held in Darwin, July 2000.

Please note: The Wetland Forum is being held on 27th September, the day prior to the 40th Annual ASL Congress.

Accommodation is pre-booked at the Rich River Golf Club Resort under 'AWF' for Wednesday 26 August.

For accommodation rates and details on how to get to Moama, please read the ASL Congress information.

The $30 attendance fee includes morning tea, lunch and afternoon tea.
To register, please complete the AWF registration form.

WHAT WILL THE FORUM ACHIEVE?

AWF2 will build on the *Strategy to Stop and Reverse Wetland Loss and Degradation* that was developed in AWF1 held in Darwin, July 2000. Copies of the Strategy will be distributed to attendees.

AWF2 will further develop the following components of the Strategy:

- Seek adoption of adaptive management approaches
- Motivate greater interaction and cooperation between key players to address information gaps
- Develop longer term and holistic visions for wetland mitigation

The program will encompass talks by four invited speakers and plenary and breakout group discussions. The speakers will represent the constituency and interests of the four organisations that have combined to present AWF2.

Aim

To achieve a paradigm shift in the way wetlands are managed in Australia and halt and reverse their loss and degradation.

Objectives

- develop a check-list of the key concerns and means to maintain wetlands
- develop research priorities to address key information gaps
- develop a framework for mitigation and adaptive management strategies
- develop a holistic vision and targets for wetland research and development

Program [draft]

Welcome – AWF2 spokesperson on behalf of the supporting parties.

Key note talk – The case for urgent action: The critical issues and a framework for long-term and credible monitoring.

Discussion session

Key note talk – Updating our scientific knowledge: Wetland processes and functions and recommendations for specific research priorities.

Discussion session

Key note talk – Mitigation and adaptive management: Approaches for different wetland types and solutions to halt the decline and increase information exchange.

Discussion session

Key note speaker – Looking ahead: Targets for wetland research, monitoring and mitigation.

Discussion session

The paradigm for the future: Summary and promises – AWF2 supporting parties.

Abbie Spiers, Email: abbies@criss.erin.gov.au

NEW BOOKS

The Murray: A River and Its People

Melbourne University Press is excited to announce the publication of "The Murray: A River and Its People" by Paul Sinclair. The Murray River is in crisis, and faces an uncertain future. In this evocative book, the author explores the reasons why the river has become degraded, and what these changes have meant to Australians. It will be an essential resource for those directly involved in the future of the Murray River, contributing to the larger debate about Australia's threatened environment.

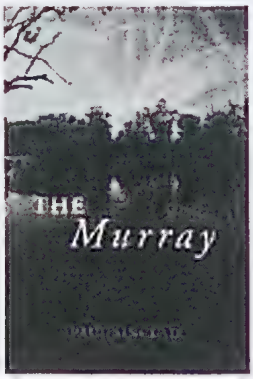
"The Murray: A River and its People", by Paul Sinclair
Hardback $49.95 [ISBN 0-522-84988-1]
For more information or to order: http://www.mup.unimelb.edu.au/catalogue/0_522_84988_1.html

Paperback $32.95 [ISBN 0-522-84940-7]
For more information or to order: http://www.mup.unimelb.edu.au/catalogue/0_522_84940_7.html

This in-depth study of the Murray River examines the changing cultural meanings of the river: the practical forgetfulness which has eroded the Aboriginal presence; the triumphant narratives in which a supposedly empty land is made purposeful by the life-giving powers of the Murray; the passion to make the river's flow predictable and to replace 'primitive' forces with a domesticated and balanced landscape.

The focus is on shifts and changes. Sinclair describes the brief heyday of the riverboats and their transformation into a tourist attraction; the decline of the mighty Murray cod and the rise of the European carp; and the changing fortunes of the river towns. He demonstrates that 'progress' is often a myth, and that ecological degradation always has cultural costs. This is an innovative cultural and environmental history, about landscape and fish, memory and concepts, imagination and desire.

Through a complex interweaving of history, analysis, poetry, art, and individuals' recollections, Paul Sinclair has created an original and subtly conceived work, offering imaginative space to think about land and water in new ways. Fishermen, farmers, tourists, environmentalists, lovers of the Australian landscape-all these people will want to read this beautifully written book.



BITS AND PIECES

The National Land and Water Resources Audit (NLWRA) has launched the Australian Natural Resources Data Library which provides access to data and information used in the creation of the Australian Natural Resources Atlases.

The Data Library was developed under contract by Sinclair Knight Merz on behalf of the NLWRA and the Bureau of Rural Sciences (BRS) BRS will maintain the Data Library and supervise additions and updates. The Australian Natural Resources Data Library can be accessed at http://adl.brs.gov.au

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The new Natural Resource Management Ministerial Council met for the first time on August 31, bringing together Federal and State/Territory ministers responsible for the environment, water, natural resources and primary industries to discuss the Council's role in overseeing major natural resource management policies including the Natural Heritage Trust (NHT) and the National Action Plan (NAP) for Salinity and Water Quality.

The NRM Council was formed following a review of all ministerial councils to take over the NRM issues handled by the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ), the Australian and New Zealand Environment and Conservation Council (ANZECC) and the Ministerial Council on Forestry, Fisheries and Aquaculture (MCFFA).

The inaugural meeting agreed on a number of immediate priorities, including implementation the NAP, progressing the COAG Water Reform Agenda, and development of Commonwealth and State delivery and funding arrangements for the extension of the NHT.

The meeting also agreed to the development of a national monitoring and evaluation framework for natural resources which would assist communities and governments to measure their progress in addressing natural resource issues.

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In early June, it was announced that Prof. Sam Lake was awarded the North American Benthological Society Award of Excellence for his contribution to Benthic Science. This is the first time the award has been made to an international scientist (as far as we know) and has only been awarded 10 times since the beginning of the society (as far as we know). This is clear recognition of Sam's significant contribution to Freshwater Science at a national and international level.

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The papers from the Riversymposium 2000 are now available. They have been published in the IWAP journal *Water, Science and Technology*, volume 43 (They make up the whole volume.) Papers from Riversymposium 2001 will also be published in this journal.

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I wanted to bring your attention to a new international website and corresponding Journal, "Ecological Indicators: Integrating Monitoring, Assessment and Management" (http://www.ecologicalindicators.org). *D. Eric Hyatt, Editor-in-Chief, Ecological Indicators*

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Water Development Plan for Tasmania launched on 12 August the Tasmanian Premier, Jim Bacon launched the Water Development Plan for Tasmania. The Water Development Plan for Tasmania identifies strategic initiatives to manage and develop the State's freshwater resources; including specific water development projects, improved environmental outcomes and streamlined administrative processes for water management. The first water development opportunity to be further investigated will be the Meander Dam in Northern Tasmania.

The Plan identifies the following key issues for Tasmania's water:

* Need for a strategic approach to water development integrating the needs of all users, the environment, social and economic goals;
* Supplying clean water for domestic use;
* Ensuring water is reused where possible;
* Ensuring streams, waterways, aquifers and wetlands are properly looked after;
* Continuing to make water the major source of Tasmania's electricity needs;
* Managing water resources so farming and other water-dependent industries can obtain reliable supplies to increase production and create more jobs;
* Making better use of water for recreation and tourism.

For further details see the Plan Website http://www.waterplan.tas.gov.au or email Christina.Jackson@dpiwe.tas.gov.au

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ABS Environment and Energy Statistics Newsletter: This is a free newsletter that is sent out electronically every 6 months. If you or others are keen to receive it, please provide the following details for registration on our electronic mailing list:

Full name:
Title: (Prof, Dr, Mr, Mrs, Ms, Miss)
Position title: (CEO, Director, Manager, etc)
Organisation name:
Organisation address:
Telephone number:
Fax number:
Email:

We have also established some webpages on environment statistics. If you are interested, the information can be accessed via the Themes/Environment buttons on the ABS homepage (www.abs.gov.au). Please feel free to contact me if you wish to obtain more information or want to discuss the matter further. *Boon Lim*

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Email to the Editor:

I Challenge.

Page 50 of the June ASL newsletter asserts that hot water is heavier than cold. OK if you have 10kg of hot water but only 9kg of cold water, but one presumes what is intended is density or specific gravity, which does vary with temperature.

Therefore any liquid water which is warmer than 8 degrees Celsius is less dense (lighter) than cooler liquid water. Liquid water has its maximum density at 4.0 degrees Celsius and the statement is therefore only true for a limited temperature range - for example water at 6.0 degrees is more dense than water between 0 and 2 degrees. Of course, the statement is always true if the cold water is less than 0 degrees Celsius and no longer liquid, and the warm water is liquid.

(The additional relativistic mass derived from the kinetic energy of the warm water molecules is insignificant, so would not make warmer water more dense than cold water. However, I believe that some hyperbaric ice phases are more dense than liquid water, so ice may not always float!)

Tom McRae, Deakin University, Email: mcraet@deakin.edu.au

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New Release: Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) and Australian Guidelines for Water Quality Monitoring and Reporting (2000)'

The revised Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) with Introduction, and two support volumes, and the newly drafted Australian Guidelines for Water Quality Monitoring and Reporting (2000) and information about how to order the ringbinder and CD package are on the NWQMS web site http://www.ea.gov.au/water/quality/nwqms/index.html and http://www.ea.gov.au/water/quality/nwqms/index.html.

The Guidelines may be ordered from: AWA, PO Box 388 Artamon NSW 2064 Tel: (02) 9413 1288 Fax: (02) 9413 1047 or the Australian Government Info Shops in capital cities and Townsville or phone132 447.

Chris Humphrey Email: chrish@eriss.erin.gov.au

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A brochure describing CRC for Catchment Hydrology Program 6 – River Restoration has been prepared. Paper copies will no doubt be available in time, but if you can't wait, the brochure can be downloaded from the CRC's web page www.catchment.crc.org.au, look under Programs|Program 6 home Page.

Pat Feehan Email: pfeehan@g-mwater.com.au

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The Goulburn Broken Catchment Management Authority has a proposal to remove levees along sections of the lower Goulburn River to allow flood flows to return to more natural flow paths. The link below will take you to some of the background material on the proposal http://www.countrynews.com.au/gbcma/

Pat Feehan Email: pfeehan@g-mwater.com.au

Over the last year or so I have been constructing a website for the promotion of New Zealand freshwater life; fishes to invertebrates, under the banner of the New Zealand Native Freshwater Fish Society. The purpose of this website is to facilitate better conservation and sustainable use of New Zealand surface waters through furthering the knowledge of people to the ecology and fragility of these systems. Downloadable references on general and specific animal ecology are also offered.

The website is found at http://www.nzfreshwater.f2s.com/

Questions/comments/contributions most welcome. It is an on-going work in my spare time and still has a long way to go.

Clint McCullough Email: ClintonM@eriss.erin.gov.au

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The National Centre for Tropical Wetland Research is now online! Check out our website at http://www.nctwr.org.au. You're most welcome to contact us if you're interested in developing collaborative tropical wetland projects: email contact@nctwr.erin.gov.au or phone Max Finlayson, Director, on (08) 8979 9711.

Abbie Spiers Email: abbies@erris.erin.gov.au

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The Commonwealth Government and all states and territory governments except Western Australia have now signed the Intergovernmental Agreement which is the over-arching document committing governments to the National Action Plan on Salinity and Water Quality. The Western Australian Government has set up a review of the State's salinity strategy and will not make a decision on signing the IGA until its completion.

The IGA sets out the general arrangements and division of responsibilities for implementing the NAP, including the objectives and requirements for the regional plans to be developed by the community-based catchment/regional bodies, the need for accreditation criteria, the broad characteristics of regional bodies, and the scope of Partnership Agreements between each of the regional bodies, the Commonwealth, and the relevant state/territory.

A special joint unit of the Department of Agriculture, Forestry and Fisheries and Environment Australia is working towards the next stage of the Action Plan, the signing of Bilateral Agreements between the Commonwealth and the states and territories. South Australia is the only state/territory so far to have signed a bilateral agreement. For further information, see Land and Water News, August, 2001.

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The Murray Darling Basin Commission has taken the first step to implement the Sustainable Rivers Audit, advertising for three independent auditors to form an Independent Sustainable Rivers Audit Group which will be responsible for the development of the audit process.

Over the next 18 months, the Audit Group will undertake a pilot audit in sample river valleys in each Basin State with the aim of developing a common format for collecting data and to establish a set of indicators of river health and how they are to be interpreted.

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The NSW Department of State and Regional Development is conducting a program to investigate the business opportunities associated with salinity. The program will establish a website (www.salinity.nsw.gov.au) and five regional forums have been planned to highlight salinity business opportunities.

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Renée Kidson, Wetland Specialist with the NSW Department of Land & Water Conservation, has been awarded a Cambridge Commonwealth Trust Scholarship to the University of Cambridge, for 3 yrs PhD study, commencing October 2001. She is also the recipient of a Trinity College bursary, and will be resident at Trinity.

Her study site is the Mae Chaem catchment in northern Thailand. Renée's research interests are in Environmental Flows for wetlands and riverine habitats. In Thailand, Renée will reconstruct and model past flow regimes, the first such project in a tropical ecosystem.

Renée assures us she will send ASL Postcards from both Cambridge & Thailand!

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CONFERENCE CAPERS

NATIONAL LOCAL GOVERNMENT SALINITY SUMMIT

A recent National Salinity Summit held at Moama-Echuca during July, was successful in ensuring that Local Government is acknowledged as a serious partner in addressing salinity.

Organised by the Murray Darling Association, the summit attracted 320 participants from every state and territory in Australia. The summit featured presentations, workshops, and tours.

The summit was regarded as a good example of a proactive approach by Local Government to a serious national problem. The summit focussed on salinity being an 'icon' issue and one of the most serious challenges facing urban and rural communities across Australia. The summit acknowledged that there must be changes to catchment management if salinity is to be managed effectively, and that all stakeholders (including indigenous Australians) should have the opportunity to contribute to solutions.

The summit affirmed that salinity is of such importance that the Commonwealth's National Action Plan should receive bipartisan support at the national and state levels to ensure long-term continuity of resourcing. Summit delegates called for direct provision in national and state budgets from general revenue for the purpose of funding natural resources management. Participants also asked that consideration be given to a natural resource management environment levy to supplement core government funding.

The summit affirmed that Local Government has a vital role to play in combating salinity and that its diversity should not be an excuse for excluding it from the process. Delegates called upon Local Government to assist Australia to trade out of its salinity management problem and encouraged the use of Local Government planning, zoning, rating and rebating systems to be developed as part of the response to the problem.

The summit was a showcase for many creative initiatives and leadership being demonstrated by Local Government and community groups in addressing salinity through partnership and other arrangements. Delegates viewed these initiatives as clearly demonstrating the capacity of communities to respond positively to being involved in processes that will contribute to addressing local salinity problems.

The summit was one of a series of initiatives developed by the Murray Darling Association to ensure that Local Government has a legitimate, and adequately resourced, role in addressing salinity. The summit asked the Association to convene several regional forums on salinity across the Murray-Darling Basin as well as another summit in 2002.

For more information on the Murray Darling Association's salinity initiatives or outcome from the Salinity Summit, please contact the Association's Adelaide office on 08 8226 0582.

Adrian Wells, Upper Murray Manager, Murray Darling Association

FORTHCOMING OVERSEAS CONFERENCES

10th International Conference on Rainwater Catchment Systems A conference within **Rainwater International** 2001. In conjunction with The International Rainwater Fair and The Forum: Rainwater Harvesting in Practice Date: 10 - 14 September 2001. Location: Mannheim, Germany. (More information at www.rainwaterconference.org).

Water Resources Management from 24 to 26 September 2001, Halkidiki, Greece. For the latest conference information, see :http://www.wessex.ac.uk/conferences/2001/wrm01/

Environmental Flows for River Systems: An International Working Conference on Assessment and Implementation" is to be held in Cape Town, South Africa from 3 to 8 March 2002. It will incorporate the **Fourth International Ecohydraulics Symposium**, and address the critically important topic of sustainable use of water resources in the new millennium. For further information, please contact the organisers on Ph: +(27) 21 685 4166; Fax: +(27) 21 685 4630; E-mail: conference2002@southernwaters.co.za; Web site: www.southernwaters.co.za

Shallow Lakes 2002 **International Conference on Limnology of Shallow (Non-Stratifying) Lakes** Balatonfüred, Hungary, 25 to 30 May 2002 www.shallowlakes.hu

29th International Association of Theoretical and Applied Limnology August, 2004. (SIL): Helsinki, Finland.

FORTHCOMING AUSTRALIAN CONFERENCES/WORKSHOPS

Australian Science Communicator's conference: "2001: A Science Odyssey" The Australian Science Communicators' conference on 23 to 26 September: see http://www.asc.asn.au/conf/index.html.

Design Flood Flow Estimation Workshop for Floodplain Management- 24 and 25 September 2001, at Griffith University. The workshop is jointly organised by: The Queensland Division of the Institution of Engineers, Monash University - Department of Civil Engineering, and the CRC for Catchment Hydrology. A detailed flyer outlining workshop sessions, presenters, accommodation and a registration form is available for downloading at the CRCCH website at: http://www.catchment.crc.org.au/events/abstracts/qld_fe_flyer.pdf

tti2001 - Technology Transfer and Innovation 2001 Conference – 26 to 28 September Shertaon Brisbane Hotel and Towers. For further details see: www.tti2001.qut.edu.au

Second Victorian Flood Management Conference 'Planning for the Inevitable' to be held on 10 to 12 October 2001 at the Latrobe Regional Performing Arts Centre, Traralgon. For further information, please contact Ms Lorraine Grey, Email: lorraineg@wgcma.vic.gov.au or Phone: (03) 5175 7800.

Wise Water Ways, a short course in Stream Management Principles and Practices, to be held 21 to 25 October 2001 at the La Trobe University, Beechworth. Further details from Lachlan Campbell, Phone (03) 5721 0200.

The **Second National Wetlands Conference** will be held at Couran Cove Resort, South Stradbroke Island, on 14 to 16 November. The conference theme has a practical focus: 'Repairing our wetlands: learning by doing'.

There will be inspiring formal presentations, practical poster sessions, skills workshops, small group discussion forums, and field tours. The conference is hosted by Wetland Care Australia, and supported by the Natural Heritage Trust. Substantial discounts are available for community members who would like to attend. We have just updated the Wetland Care website with new information on the conference. Check it out at www.wetlandcare.com.au/conference_2001.htm, or contact Heather Shearer on (02) 6681 6069 or wca@linknet.com.au or contact Sharon at (08) 8582 3677 or wca@riverland.net.au

Environmental Flows seminar to be held on Monday 19 November 2001 at Main Auditorium, Institution of Engineers Australia, 21 Bedford Street, North Melbourne. The seminar is expected to run from 8:30am to 4:30pm (Jointlyorganised by RBMS, IEAust and the CRCCH).

There will be three sessions.
1. An outline of the knowledge used to assess environmental flow requirements
2. Recent developments in environmental flow methods
3. Community Attitudes, the State of Environmental Flow Management and Future Challenges

Interested? Email: Michael Stewardson (CRCCH, Department of Civil and Environmental Engineering, The University of Melbourne) on m.stewardson@civag.unimelb.edu.au

National Conference on "Sustaining Our Aquatic Environments - Implementing Solutions" 20 to 23 November 2001, at Jupiters Hotel & Casino, Townsville. The aim of the Conference is to provide a forum to develop innovative ideas and improve knowledge on managing the impacts of catchment use on aquatic environments and lead to the enhancement of the values and health of aquatic environments and associated landscapes in Tropical and Sub-tropical Australia. Enquiries to: events@awa.asn.au [http://www.awa.asn.au/AquaticEnvironments]

The **MODSIM 2001** Congress will be held on 10 to 13 December 2001 at ANU, Canberra. The conference web address is http://cres.anu.edu.au/~tony/modsim2001.htm

The **27th Hydrology and Water Resources Symposium** will be held in Melbourne, from 20th to 23rd May 2002 at the Hilton on the Park, Melbourne

The Symposium's theme is "The Water Challenge - Balancing the Risks." How do we achieve a sustainable balance between the hydrological risks associated with competing demands for water resources? Contact the Symposium Organisers: info@convention.net.au

World Congress on Aquatic Protected Areas 2002: What works best and how do we know? The inaugural World Congress on Aquatic Protected Areas will be held in conjunction with the 31st Annual Conference of the Australian Society for Fish Biology. This important event will be held 14 to 17 August 2002 in Cairns, Queensland, Australia. Further information from OzAccom Conference Services, PO Box 164, Fortitude Valley QLD 4006; Email: apa2002@ozaccom.com.au Website: www.ozaccom.com.au/apa2002

ASL VOLUNTEERS

The following members have volunteered to speak as experts on behalf of the ASL.

If you wish to be included on the list contact:

Dr Richard Marchant (ASL Secretary)
Email: rmarch@mov.vic.gov.au

Prof Angela Arthington:
in stream flows, ecology of exotic fishes, conservation of rare fishes.
Centre for Catchment & In-Stream Research, Griffith University, Natham Qld. 4111.
Phone (07) 3875 7403, Fax (07) 3875 7615, email: a.arthington@mailbox.gu.edu.au

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bacteriological issues, wetlands.
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intermittent streams, hyporheic zones, Flinders Ranges.
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Prof. Stuart Bunn:
stream ecology, ecology of riparian zones, biomonitoring.
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wetlands, Ramsar convention.
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platypus biology.
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water mites.
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Mr Kent Hortle:
impact of mining, impact of development in SE Asia and PNG on rivers.
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A/Prof Pierre Horwitz:
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Prof. P. Sam Lake:
stream ecology, conservation freshwater biota.
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Dr Vladmir Matveev:
plankton food webs, biomanipulation.
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Ms Kerri Muller:
constructed wetlands, wetlands of the lower Murray.
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Dr Winston Ponder:
taxonomy, biogeography and biology of freshwater mollusca.
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Phone (02) 9320 6120, Fax (02) 9320 6050, email: winstonp@amsg.austmus.gov.au

Dr Jim Puckridge:
ecology of arid zone rivers, ecology of freshwater fish.
Department of Environmental Biology, University of Adelaide, Adelaide SA 5005.
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Dr Melody Serena:
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Australian Platypus Conservancy, PO Box 84, Whittlesea VIC 3757.
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Dr Russ Shiel:
planktonic and littoral microfauna, billabong ecology.
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lake geomorphology, coastal dune lakes, arid zone wetlands.
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Dr Lloyd Townley:
groundwater-surface water interaction.
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Prof. W.D. (Bill) Williams:
Salt lakes.
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Phone (08) 8379 1924, Fax: (08) 8338 6045, email: bwilliam@camtech.net.au

ASL MEMBERSHIP FORM

A few changes have been to the membership form since the last issue. ASL is not registered for GST, therefore ASL does not charge GST.

Alternatively go to the ASL website (http://www.asl.org.au/asl_member.htm), follow the link to 'Membership application via the web'. Fill in the details on the form, including credit card details and submit.

MEMBERSHIP FORM

Surname:... ... ...

Australian Society for Limnology Inc, ABN 54 606 483 226

Membership Rates for 2001/2002

Member:	$ 40.00
Student Member:	$ 20.00
Ten Year Member:	$350.00

Method of payment : Cheque ( ) Money Order ( ) Credit Card ( )

Please Debit my:

Bankcard ( ) Visa card ( ) MasterCard ( )

Card number _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Amount $... ... ... Expiry Date ... ...

Name of card holder ... ...

Signature ... ...

Please Return to:

Margaret Hart
Treasurer/Membership Officer
22 Netherby Avenue
Wheelers Hill VIC 3150

Fax (03) 9545 3549

ELECTRONIC NEWSLETTER APPLICATION FORM

If you are a member of the ASL and want to receive your newsletter electronically, then please fill in the form below. Members who do not want to receive an electronic version, and would rather still receive the paper version will continue to do so, but you are encouraged to also fill in and send the form below (we do not have plans to phase out the paper version).

I am a member of the ASL and my name is:... ... ...

My email address is: ... ...

REGIONAL EXECUTIVE MEMBERS 2000-2001

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